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ABSTRACT

CALLING CAREERS is a televised series of fifteen 20-minute lessons intended to acquaint fourth through eighth grade students with twelve vocational clusters and to demonstrate the opportunities contained within them, the relationships between them, and the personal characteristics and work habits they require. The series also demonstrates how jobs provide satisfaction, how they are related to present interests and activities, and how community influence affects career choice. The manual, to be used with the televised lessons, assist the teacher by supplying a variety of resources for each cluster: construction, communication, medical services, health services, business, merchandising, leisure industries, agri-business, transportation, social services, personal services, and manufacturing. For each lesson, an overview provides a brief description of the unique qualities of one cluster, with behavioral objectives and a summary. Activities are suggested before and after the lesson, both general and also directed to specific curricular areas. A bibliography for students, including fiction and non-fiction, is provided. The manual is in a prelininary stage as part of the Maryland Career Development Project (K-Adult) and is subject to revision according to teachers' suggestions. (AG)

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OVERVIEW AND ACCOMPANYING TEACHERS' MANUAL FOR THE "CALLING CAREERS" SERIES A COMPONENT OF THE MARYLAND CAREER DEVELOPMENT PROJECT

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The Maryland Career Development Project (K-Adult)

Television Component: "Careers Calling"

The Maryland Career Development Project (K-Adult), funded under the provisions of the Exemplary Section of the Vocational Education Amendments of 1968, included the development of an instructional television series as one of its components. The planning of this series began with the formation of a statewide committee and program development subcommittees. Representatives from several divisions of the Maryland State Department of Education, local school systems, the Maryland State Employment Service, business and labor, and various community organizations were included on the various committees.

In a highly technical age when people rely heavily upon mass communication as the quickest and easiest way to absorb large amounts of information, the committee saw television as a means of acquainting both youth and adults with the world of work. Educators are agreed that individuals can attain fuller understanding of any subject if all the senses are involved in the learning process. Television is one medium that can reach persons who would otherwise never read about, or become aware of the many occupations for which they could prepare themselves.

It was felt that a series of programs with a career development theme could be an important means of communicating information about the many educational and career options available.

These programs and their accompanying written materials will be a ready resource of career information for counselors, teachers and students. In addition, public viewing of the series would enhance and amplify the meaning of career-oriented education.

The committee planned and outlined a series of 15 twenty-minute episodes, with a target audience of fourth through eighth grade students. The purpose was to assist all intermediate and middle school students with a career development program. The committee's aim was to expand student's understanding and appreciation of himself and the potential work environment. This would be accomplished by using visual aids to expose him to a multitude of career alternatives. It is hoped that this would then encourage him to explore these alternatives on his own.

Specifically, the series will accomplish the following objectives:

The viewer will

1. recognize that all legitimate occupations are necessary and worthwhile by observing the interdependence of people and tasks upon one another.

2. be able to identify the sequential steps in decision making: motivation, exploration of tentative and alternative choices, deciding upon a course of action, acceptance of responsibility for consequences, and evaluation of choice by seeing examples of this process linked to activities they know.

3. learn that work habits developed now are likely to carry over into job performance.

4. witness the importance of cooperative group effort in achieving common goals.

5. observe ways in which extracurricular and recreational activities may be connected to future careers.

6. recognize the correlation between school subjects and various occupations.

7. understand that one's first career choice need not be one to which he is restricted for the rest of his life.

8. understand that work provides satisfaction in its own right by seeing the pride and pleasure which are visible components of job performance.

9. observe various work settings and the people in them in terms of likes, dislikes and beliefs.

10. develop an appreciation for and understanding of all fields of work and the contribution that each makes to society.

11. become more cognizant of the career possibilities and influences in their immediate communities.

12. recognize the differing patterns of men's and women's vocational participation and the determinants of these patterns.

13. witness how the creativity of each person in his job can contribute to others and also give the person doing the job a sense of fulfillment.

14. learn about several broad career areas and the many opportunities contained within these areas.

Treatment of each area will emphasize the interrelationships between people, structures, goods and services.

Each program will be field-tested to determine the accuracy and clarity of presentation. Individuals representing the viewing audience will participate in these testings, and changes indicated will be made as the series progresses. In order to determine the extent to which the series is to be used, an assessment will be made of the number of showings and the numbers in the viewing audience. In order to evaluate the effectiveness of the series, critiques will be solicited from a random sampling of instructional personnel, viewing students, parents, and members of the business community. A utilization manual for teachers will be developed concurrently with episode filming. Kinescopes of each program will be made to provide for more extensive utilization of the series.

The series was funded primarily from Maryland State Education Department

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funds, but with supplementary funding from the Maryland Career Development Project, USOE Contract number OEC-0-70-5186 (361).

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7-71

PILOT ISSUE

CALLING CAREERS

PART I
(PROGRAMS 1 -- 7)

This publication is a temporary teacher's manual. The permanent manual will be prepared in accordance with teachers' recommendations about its content and pupil activities.

Teachers, please keep a record in *this manual* of your suggestions about the series, your results from using the suggested activities, and the activities you and your pupils create. The Division of Instructional Television seeks your evaluation of this series and its manual.

Become involved in instructional television planning by submitting your recommendations! Evaluation forms are included in the manual for your convenience in responding to us.

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INTRODUCTION

WHY CALLING CAREERS?

Career development is a dimension of human development which includes the individual's perception of himself in relation to education, the world of work, and leisure activities. Recognition of this influence in all areas of daily living has caused career development education to gain prominence as a national concern. It is known that the exploration of careers has important antecedents in the early years of childhood and that this developmental process may be facilitated through appropriate programs, services, and activities. The elementary and middle school years are an especially significant time in the development of vocational attitudes, values, and decision-making powers as this is the period when the individual is developing his aspirations in relation to a rapidly changing society. It is the aim of this series to have a significant impact in this important educational area and to assist eleven-and twelve-year-old pupils in the process of self-knowledge through career oriented activities.

WHAT IS CALLING CAREERS?

Seven general goals have been set for this series as a means of assisting pupils in their initiation to career exploration. It is hoped that through the use of the telelesson, teacher manual suggestions, and classroom activities the student will:

....learn about several broad career areas and the many opportunities contained within them
....develop an appreciation for and an understanding of fields of work and the contribution that each makes to society by observing the interdependence of people and tasks upon one another
....understand that work provides satisfaction in its own right by seeing the pride and pleasure which are visible components of job performance
....observe ways in which school subjects, personal interest, and recreational activities may be related to future careers
....observe how people in various work settings display a number of personal characteristics and work habits which exist in the student population
....understand that one's first job choice need not be one to which he is restricted for the rest of his life
....become more cognizant of influences in the community as one of the factors affecting career choice.

The series is not concerned with qualifications for specific occupations but rather with establishing work attitudes, exploring different work areas, breaking down stereotypes of occupations, relating school activities and work activities, and looking at similarities and differences in people as well as occupations. It is hoped that by helping the pupil explore and develop his own vocational attitudes and decision-making processes, *CALLING CAREERS* will enable the pupil to understand and appreciate himself in relation to the potential work environment.

HOW IS CALLING CAREERS ORGANIZED?

CALLING CAREERS is a series of fifteen, 20 minute lessons offering the pupil visual access to the world of work. Twelve vocational clusters are presented in this order: construction, communication, medical services, health services, business, merchandising, leisure industries, agri-business, transportation, social services, personal services, and manufacturing. The introductory and final lessons focus specifically on personal attributes, qualities, and attitudes with an emphasis on the variety of personal differences and the opportunity for changing and modifying decisions.

WHAT HELP CAN THE MANUAL OFFER?

The manual is designed to assist the teacher by supplying a variety of resources. The suggestions are offered to enable the teacher and pupils to pursue many avenues as they explore the career areas. It is not a prescription to be followed. Rather, it is hoped that the teacher will use it by selecting those activities most appropriate for his class and curriculum.

The manual is organized in such a fashion that the teacher should find it an easy reference as he prepares his lesson. For each lesson the following information is included:

Overview - This section provides a brief description of the unique qualities of a specific career cluster. Included is a listing of many occupations found in the cluster.

Objectives - These are brief statements of the desired pupil behaviors at the conclusion of the total lesson. These are the purposes that have guided the development of the program and manual and should be achieved by the pupils after experiencing both pre- and post-viewing activities and the telelessons.

Synopsis - This section summarizes briefly the contents of the telelesson, highlighting the factual and attitudinal emphases found in the program.

Pre-viewing Activities - Two or more ideas related to the theme of the program are offered to aid in preparing the class for viewing. The teacher may select from these suggestions or create his own preparatory activity.

General Post-Viewing Activities - The teacher will decide how *CALLING CAREERS* will be incorporated into his curriculum -- either as a subject itself or as a part of another curricular area. Therefore, the activities in this section are not limited or specialized to a subject area. Any of the activities suggested in the "Subject Oriented" section may also be adapted and used if a special unit in career education is being taught.

Subject Oriented Post-viewing Activities - As the title implies, the activities found here are grouped according to specific curricular areas. This is to aid in utilizing the series within already scheduled content areas. The teacher may feel free to interchange any activities from one subject area to any other.

A bibliography for students is included. The books are grouped according to career clusters contained in the series. Within each group are fiction and nonfiction materials. The number of books has been limited to those which might be readily available in school or public libraries.

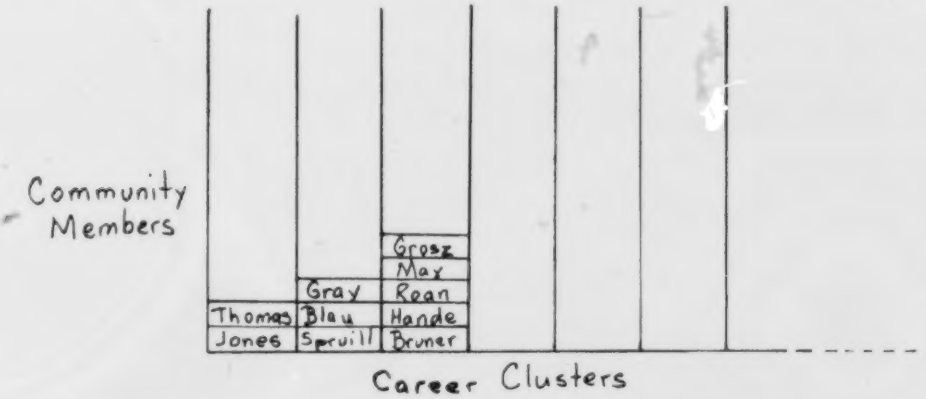
The glossary is provided to supply additional background information for the teacher. A limited number of the occupations and terminology used in each career cluster are defined. The teacher wishing to delve more deeply into career development education will find the following a valuable reference:

Hopke, William E. ed., The Encyclopedia of Careers and Vocational Guidance, Vol. I,II,III,IV: New York: Doubleday and Company, 1967.

HOW CAN CONTINUITY BE PROVIDED?

The following suggestions are for activities and projects which can be extended and expanded during the fifteen weeks the series is broadcast. They might be used with groups or individuals.

1. Build a "Mini-Media Lab" where pupils can contribute inputs each week as they gather materials relating to career clusters.
2. Tape-record interviews made by pupils with persons working in a specific career cluster. This may become a part of a careers reference file in the library.
3. Plan a bulletin board or classroom display pertaining to the specific cluster for that week. Each week new materials could be used.
4. Make individual or class scrapbooks with clippings, summaries, and/or photographs of people working in each given career cluster.
5. Keep a class "Occupations Dictionary."
6. Keep a "New Careers Chart" - a continuous list of those careers about which pupils knew little. During the course of the series allow <u>each</u> pupil to write a brief description about one of these "New Careers" to add to the chart.
7. Set up a graph to which pupils add names of workers they know in the community. Names of neighbors, relatives, and friends in the community could be contributed for each job cluster. As the series progresses, pupils can see patterns of job distribution in their own communities.



8. Compile a description of the qualities which make a good worker. New qualities might be added with each lesson. Some qualities are: interest, initiative, punctuality, skill, and attitude toward authority. At the conclusion of the series this could be a profile of a successful worker.

PROGRAM 1

CALLING CAREERS

PEOPLE ARE DIFFERENT

OVERVIEW

In the *Calling Careers* series the philosophy of the entire career explorative process is presented from the point of view of the differences in human beings. A person's selection of a career is affected by the unique personal and emotional characteristics that make him an individual as well as the cultural, societal, and familial values that influence the decision making process that culminates in that career choice. Sequentially this individual decision making process consists of five general stages: motivation, exploration of tentative and alternative choices, deciding upon a course of action, acceptance of responsibility for consequence, evaluation of choice. Once the decision has been made to enter a particular occupation these same differences in human beings have a pronounced effect on a person's satisfaction with his job as well as his preference for that job.

OBJECTIVES

Following both the program and the post-viewing activities:

1. Pupils will state reasons why a particular worker in the telelesson finds satisfaction in his work.
2. Pupils will give examples of how people work together to achieve a common goal.
3. Pupils will cite qualities which contribute to the uniqueness of each individual.

SYNOPSIS

In this first telelesson some of the pupils who will be seen in subsequent programs are introduced to the "media lab," an impressive array of machinery that can be used to retrieve films, slides, cartoons, pictures, and tapes of people working in career areas. In a very real sense the media lab is a textbook for these pupils.

People are different and different people do different things. An individual's choice of a job may be affected by his distinctive interests, abilities, personality characteristics, and physical traits. Workers from a variety of fields tell some of the reasons they chose their jobs and explain some of the personal satisfactions they derive from performing those jobs. An examination of some of the many people who worked with the *CALLING CAREERS* series shows that people with different talents, abilities, and personalaties often work together as part of a team.

PRE-VIEWING ACTIVITIES

1. Have pupils discuss some of the ways in which people differ from one another. How do these differences affect pupils at the present time? How might these differences affect pupils in the future?

2. Have pupils write some of the occupations they might choose for themselves in the future. What reasons do they have for their choices? Elicit that job choice is a very personal and individual matter and discuss possible reasons for this.

3. Work the "Occupations Puzzle". See Pre-Viewing Activity Sheet #1 (use as overhead or for class distribution).

POST-VIEWING ACTIVITIES

1. Make an "Interest Inventory" of the class using Post-Viewing Activity Sheet #2. Use the same bar graph, Post-Viewing Activity Sheet #3, as an overhead transparency to plot graphically the differences in pupil responses to inventory questions.
2. Have pupils draw a "coat of arms" to identify their own special interests or talents. For example, a sports enthusiast might draw a shield with a football, a goal post, and the colors of his favorite team. Pupils then explain their choices.
3. Have pupils make a collection of comic strip characters that represent as many different occupations as possible. Discuss the unique qualities the characters exhibit.
4. Have pupils design their own "family trees of occupations" in which they list the occupations of parents, aunts, uncles, etc. as branches of the tree.
5. Have pupils draw a circle graph showing what comparative portions of their day they spend watching television, attending school, sleeping, eating, playing, etc. Use the same colors to represent similar activities in each pupil's graph and make a bulletin board display of the class graphs.
6. Have the pupils make a collection of pictures, from magazines and newspapers, of people at work. Circle or mark the pictures the skill or talent the worker is employing.

SUBJECT ORIENTED POST-VIEWING ACTIVITIES

The concept of this particular telelesson focuses on pupil awareness of individual interests, talents, and abilities. For this reason manual suggestions have been designed to expand upon this concept rather than to emphasize a particular career cluster through subject oriented activities.

NAME_____

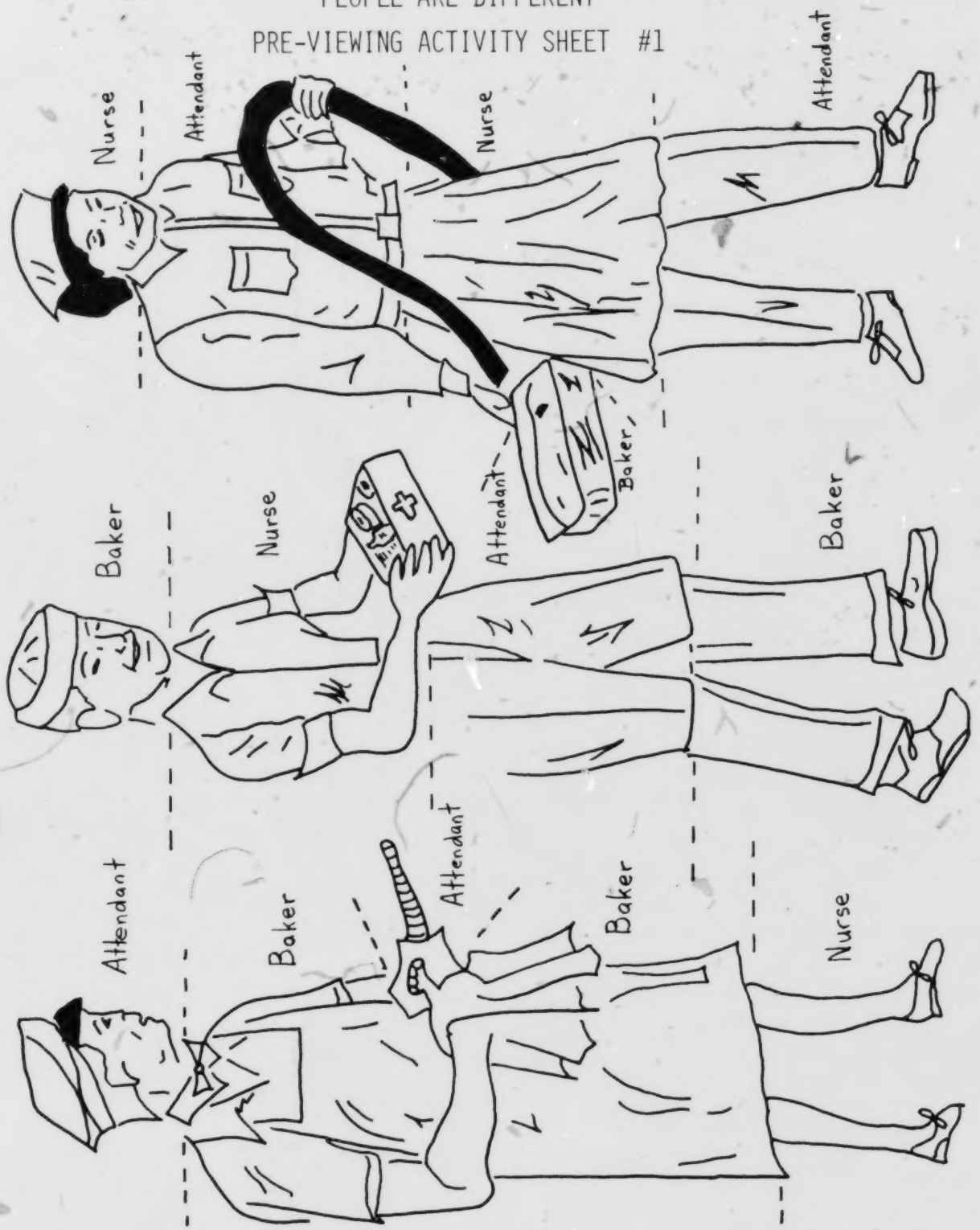
PEOPLE ARE DIFFERENT

PRE-VIEWING ACTIVITY SHEET #1

ANSWER SHEET

PEOPLE ARE DIFFERENT

PRE-VIEWING ACTIVITY SHEET #1



Figures should be cut along dotted lines and arranged so that they show a service station attendant, a nurse, and a baker.

NAME_____

PEOPLE ARE DIFFERENT

POST-VIEWING ACTIVITY SHEET #2

Draw a line under the answer you choose:

1. I like to work (indoors, outdoors, both).

2. I like to work (by myself, with a few people, with many people).

3. I would like to have a job (near my home, in a nearby area, far away).

4. I work best with my (hands, mind, both).

5. I would like to live in (the country, the city, a small town).

6. I would like to work with (ideas, things, people, animals).

Complete the following sentences:

7. In my spare time I enjoy_____.

8. I am interested in learning about myself when_____.

9. I feel especially good when I_____.

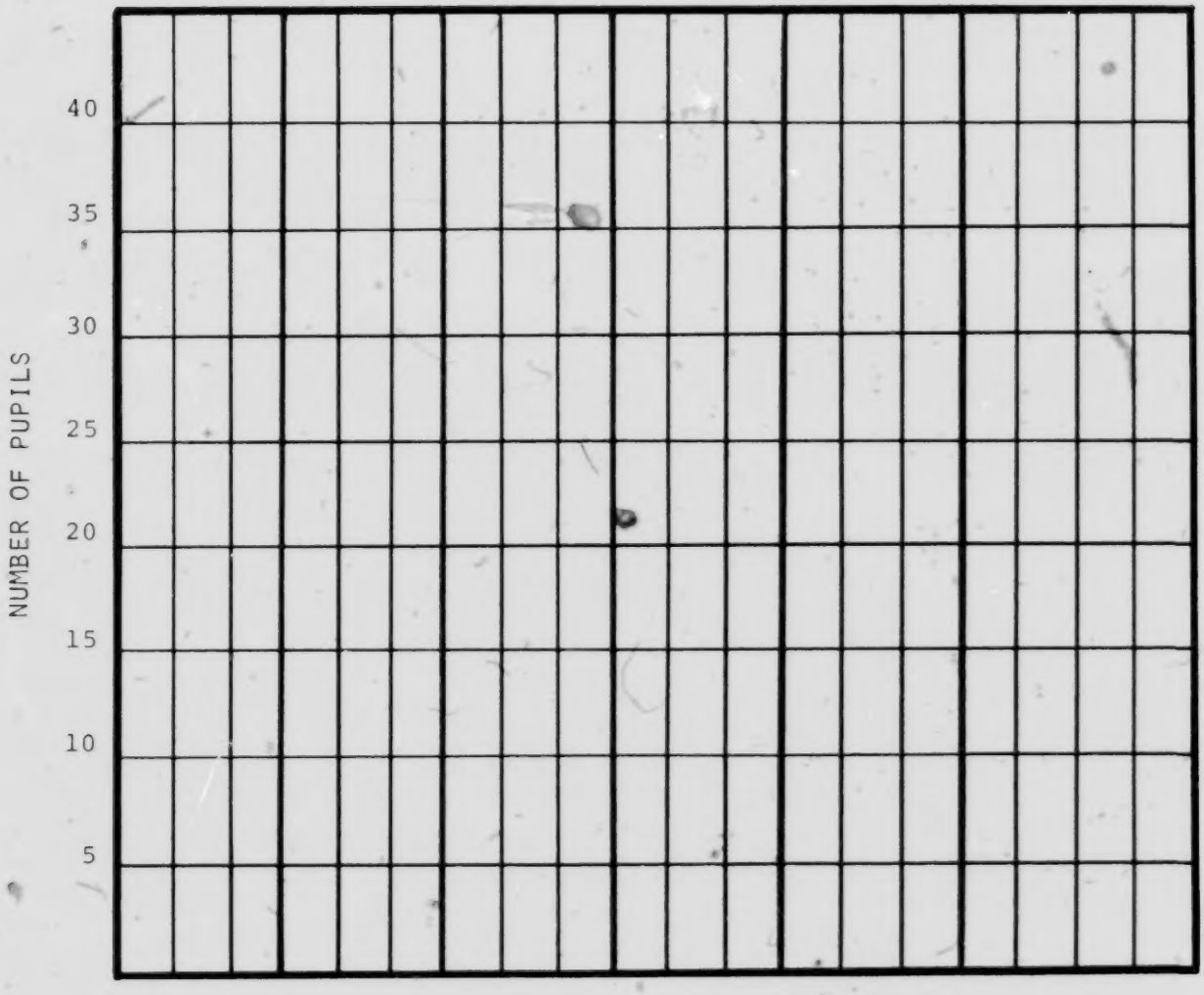
10. I would like to become a_____.

NAME_____

PEOPLE ARE DIFFERENT

POST-VIEWING ACTIVITY SHEET #3

CLASS INTERESTS



ANSWERS

CALLING CAREERS — THE CONSTRUCTION INDUSTRY

OVERVIEW

Today the construction industry is the nation's largest industry, and its operations extend from coast to coast. It provides employment for more workers, directly and indirectly, than any other single industry and pays one of the highest wage rates.

Construction takes many forms, and its products vary in size, appearance, composition, character, and purpose. The products of the construction industry can be divided into categories. Residential construction includes structures ranging from small homes to huge housing developments. General building construction involves industrial buildings such as plants, factories, and commercial structures from stores to sky-scrapers, schools, hospitals, and churches. Dams, bridges, tunnels, railroads, and missile bases make up heavy construction.

Some of the career possibilities in the construction industry are: building and/or landscape architects, surveyors, draftsmen, operating engineers, bricklayers, carpenters, electricians, plumbers, sheet metal workers, cement finishers, and semi-skilled helpers.

OBJECTIVES

Following both the program and the post-viewing activities:

1. Pupils will state ways in which workers in the construction industry cooperate to perform specific tasks.
2. Pupils will explain reasons why construction workers find satisfaction in their jobs.
3. Pupils will identify one interest of theirs that might lead to a job in the construction industry.
4. Pupils will describe one way a worker in the tele-lesson is producing or providing services needed by many persons.

SYNOPSIS

Building, construction, architecture - whatever it is called, Donna and Bob find that there are many kinds of jobs in the construction industry. The work may be outside on the construction site - like a bricklayer or crane operator. The work may be inside an office - like a draftsman. People who enjoy seeing their work grow in front of them, people who like working with their hands may be interested in learning about construction careers. There are jobs for skilled and semi-skilled craftsmen. There are jobs for artists. There are jobs for people who feel happy planning things and working with figures. There are even jobs for people who like to make things grow - landscape architects.

The telelesson gives the pupils some idea of the different aspects of the contractor's job. Filmed sequences of the skilled trades show craftsmen at work on a construction site. A carpenter describes his job and explains why he takes pride in his career. Watching and listening to the media lab input, Bob and Donna observe the importance of people working together in construction.

PRE-VIEWING ACTIVITIES

1. Have pupils (on the day preceeding the telelesson) bring to class any items which they have made: model cars or airplanes, bird houses, doll houses.
   Ask questions such as:
   Have you ever built anything or seen anything being built?
   What was needed in order to build it?
   Why was it built?
2. Distribute to each pupil only ONE of the following items: sheet of paper, ruler, or pencil. Direct each pupil to construct a 7-inch cube with the material he has. Elicit why they cannot work successfully - "I don't know what one looks like?, I don't have enough material." Show pupils a pattern of a cube if necessary and ask, "How can you help one another to construct the cube?"
3. List some steps involved in building in the order that they might occur in the construction of a building.

GENERAL POST-VIEWING ACTIVITIES

1. Discuss with pupils:
   Did you see any workers in the tele-lesson who might sometime help you and your family?
   What services would they provide?
   Which workers did you see depending on another to complete their jobs successfully?
2. Introduce the following role playing situation:
   A group of workers look at a school building they have just completed or repaired.
   Each one brags about what job he did and argues that his task was more important than the others.
   Roles pupils might choose include a bricklayer, plumber, carpenter, painter, electrician.
3. Draw a cartoon to be used as a transparency to illustrate the caption "It Turns Out Great When You Cooperate." Have pupils illustrate the same idea using a different cartoon. Discuss the meaning of the caption and how the workers in the teacher's cartoon are cooperating to complete their tasks. (See "Sample Cartoon")
4. See Post-Viewing Activity Sheet #1 - Riddles. This may be duplicated and distributed to the class.

5. Have pupils explore:
   What types of tools are needed by the various workers in the construction industry?
   What kind of construction is familiar in your part of town? (Include descriptions and functions of structures.)

SUBJECT ORIENTED POST-VIEWING ACTIVITIES

Social Studies:

1. Have pupils discover how climate affects the construction industry in terms of styles of buildings, types of materials used, and working season and the effect this has on the nature of the workers' tasks.
2. Have pupils use the classified section of the newspaper to cut out job ads relating to the construction industry. These could be displayed and used to answer questions such as:
   Are there few or many ads for construction workers?
   For which job are the most ads listed?
   Is there a variety of jobs advertised?

Language Arts:

1. Have pupils discover WHAT WOULD HAPPEN IF:
   The architect forgot to put elevators in a skyscraper? the electrician connected all the electrical wires to the plumbing system? the plumber connected all the water fountains to the hot water pipes? the carpenter forgot to put doorknobs on some of the doors? Divide the class into small groups and have each group choose a specific construction job (carpenter, architect, crane operator, etc.) and create their own situations.
2. Set the stage for a play. Suppose the pupils were selected to design and build a city for children only. What would they name their city? What would they build? Where would they build it? What would they be sure to include? To omit? What problems would they encounter? How would they solve these problems? Ask for a group of children to prepare and present a play with the theme: "A City for Kids Only".

Mathematics:

1. Collect examples of objects and measurement devices used in construction. Prepare a glossary of the terms used by the workers who employ these various measurements in their jobs. The list might include such terms as: board foot, yard of concrete, long ton, 15° grade, etc.

2. Have pupils pretend they are architects and draw a blueprint of a room in their home or the home of a friend. Include important furniture in the room.

Science:

1. Ask pupils to help you list some of the materials used in their school building. Can they arrange them in the order of their strength? Why are certain materials used in certain parts of the building? Why are steel beams used in ceilings? Why is glass used in windows? Why not use concrete for doors instead of wood?
2. Have pupils make a collection of materials used in the school building. Encourage visual and tactile examination of materials. (Pupils may draw and label materials when none are available.) Identify which construction workers would use these materials because of the nature of the job they do.

NAME_____

CONSTRUCTION

POST VIEWING ACTIVITY SHEET #1

Directions: Can you answer the riddle? You may use a dictionary for help. Choose from the list at the bottom of the page.

1. I make drawings and blueprints of many sizes;
   You need me for every building that rises.
   _____

2. As soon as one enters a door,
   He sees my work right there on the floor.
   _____

3. I put in the pipes so water will run;
   In every building my job must be done.
   _____

4. I pile up dirt and dig a hole;
   To clear the land -- that is my goal.

5. I work with concrete and mortar in the job I do.
   I could be called a mason too.
   _____

6. I explore a place, look over a site
   To make sure construction there will be right.
   _____

7. I cut, shape, and fasten wood.
   I must be exact to make my work good.
   _____

8. I lay out and assemble fixtures and wiring;
   Sometimes my job can be very tiring.
   _____

9. I work with colors like whites and blues;
   I finish up buildings in the shades one can choose.
   _____

- -

tile-setter	painter	surveyor	carpenter
bricklayer	draftsman	plumber	electrician
	heavy machine operator		

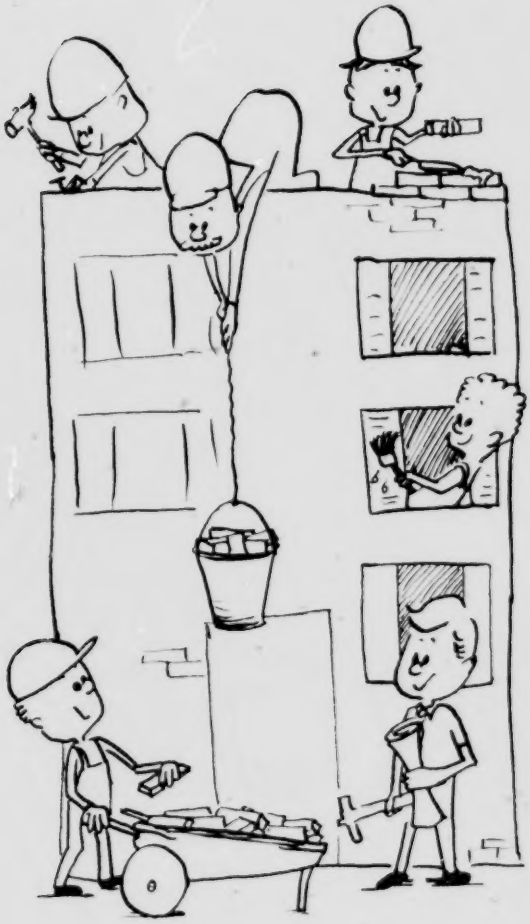
- -

Challenge: Can you write a riddle about these or any other jobs in the construction industry?

architect plasterer
roofer welder

CONSTRUCTION

SAMPLE CARTOON



IT TURNS OUT GREAT WHEN YOU COOPERATE!

CALLING CAREERS — THE COMMUNICATIONS INDUSTRY

OVERVIEW

As our population and economy grow, and as technology advances, the need for more and better communication increases. The job of conveying information among people is the responsibility of the communications industry, one of the largest fields of employment in the nation.

Included in the communications cluster are television, radio, telephone, telegraph, publishing, printing, and postal services. The variety of careers ranges from those involving performing and graphic artistic talents to those employing specialized technological skills. For this reason, the communications industry offers one of the widest spectrums of job choices of any industry.

Some of the career possibilities in the communications industry are: broadcast technician, announcer, boom operator, cameraman, director, operator, lineman, frameman, typesetter, artist, proof reader, advertising salesman, writer, set designer, postal clerk, mail carrier, and equipment maintenance personnel.

OBJECTIVES

Following both the program and the post-viewing activities:

1. Pupils will name and describe at least three jobs in the communications industry.
2. Pupils will explain how men and women with various interests and talents work as a team to produce a television program.
3. Pupils will state reasons why people would choose a particular communications job as a field of work.

SYNOPSIS

With the help of their career consultant, Cindy and Rod learn that there are many different ways of communicating and many kinds of jobs in the communications field. The computer provides the pupils with information about careers in radio, telephone and telegraph, and "print" industries. Rod and Cindy are especially interested in learning more about working in television.

The pupils discover that most people who work in communications have to like working with other people and must carry their share of the load. Working with and depending upon other people often means that communications workers have to do their jobs on time to meet deadlines.

PRE-VIEWING ACTIVITIES

1. Ask pupils what different forms of communication they use. What forms of communications are used by other people to communicate ideas to students? What forms of communication are more effective than others? Are they always more effective?
2. Have the pupils examine a captioned picture and discuss: What is communicated by the picture alone, by the caption alone, by the picture and the caption together? Does the picture clarify an idea presented in the text? Ask pupils to name some of the people involved in making a book.

GENERAL POST-VIEWING ACTIVITIES

1. Have pupils watch any television program for a few minutes to observe the decisions that are made about lighting, scenery, sound, timing, commercials, etc. Discuss some of the workers who are involved in making the changes observed.
2. Ask the pupils to choose some product, sport, television show, etc., they think more people should enjoy. Divide the pupils into groups according to different communications media and choose workers' roles for each group member to act out. Have each group try to promote its product as they role play the worker in that particular industry. Discuss the effectiveness of the various presentations and their reaction to the "job" they had.
3. Work the "Jumbles". See Post-Viewing Activity Sheet #1, for class distribution.
4. Explore with the pupils this idea: many communications inventions now in the experimental stage, such as videophones, will probably become available for general use within pupils' lifespans. Have pupils investigate such innovations in communications as: cable television, cassette movies for home use, libraries on microfilm, satellites, teaching machines, possibility of an international language as Esperanto. Try to predict the types of workers these inventions will require.

SUBJECT ORIENTED POST-VIEWING ACTIVITIES

Social Studies:

1. Compare the methods and people used by the early colonists to communicate important events with the methods and people used today.
2. Have the pupils choose a future school or class event which they would like to promote. Divide the class into groups and have each group use a different communications technique to publicize the event. Groups might draw posters, write articles, make tapes for a school announcement, speak to other classes, take photographs for a bulletin board. Pupils may assume the roles of workers in the medium.

Language Arts and Reading:

1. Complete the 'Analogies". See Post-Viewing Activity Sheet #2, for class distribution.
2. Discuss with pupils the kinds of questions good interviewers would ask to get information about some public figure. Have teams of pupils select a personality they would like to learn more about, such as a sports hero, rock star, television actress, etc. Pupils could act out, tape record, or write question and answer interviews in which one pupil takes the role of the interviewer while the other plays the famous personality.

Mathematics:

1. Discuss with pupils the kinds of information communicated about them by numbers (age, weight, height, clothing sizes, address, etc.). Ask each pupil to list as many different numbers as he can that identify himself. Read some of the number descriptions anonymously and see if the pupils can identify one another.
2. Have the pupils investigate the process of changing decimal numbers into binary numbers for a simple binomial computer. A guest speaker from the community could help to explain the importance of computers in communicating and storing information and the number of people needed to perform this task.

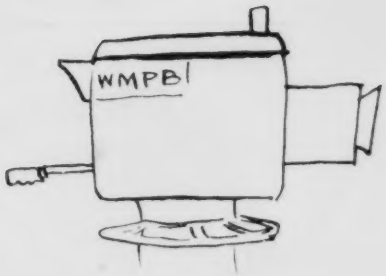
Science:

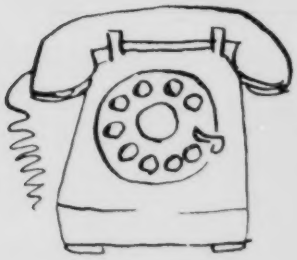
1. Develop with pupils a list of the many kinds of communication that are based on sound (voice, radio, sonar, etc.). How is the sound transmitted in each case - through wires, electrical impulses, atmosphere? What science knowledge does a worker in this area need?
2. Have individual pupils or groups investigate the operations of a camera, telegraph, satellite, or other communications devices. Pupils could make simple diagrams or models to explain their machines to the class. Also, they could explain who uses them in their job and how.

NAME_____

COMMUNICATIONS

POST-VIEWING ACTIVITY SHEET #1





_____	_____	_____
_____	_____	_____
_____	_____	_____

Unscramble these nine jumbles to make nine words that have to do with communications jobs. Write each word in the correct column above.

LASTLINER	MALEINN	RETROPER
RENTRIP	AMERACMAN	OBOAPROMOTER
TIREDROC	SWACHITBORD	PESTYRETTE

CLUE BOX: the jumbled words can be found in this list.

printer	announcer	artist
technician	reporter	installer
writer	producer	lineman
postman	frameman	salesman
director	boom operator	cameraman
typesetter	proofreader	switchboard

When you have finished, see if you can make some communications jumbles using your own words or the other words in the Clue Box. Try them on your friends.

NAME_____

COMMUNICATIONS

POST-VIEWING ACTIVITY SHEET #2

Choose the word to complete the set of analogies. Underline your answer.

Example:

SWEET is to SOUR as COLD is to: (warm, refrigerator, hot, winter).

- -

1. RADIO is to TELEVISION as HORSE AND BUGGY is to:
   (wheel, camera, automobile, airplane).

2. LINEMAN is to CABLE as BOOM OPERATOR is to:
   (sound, microphone, television, headphones).

3. TELEVISION PROGRAM is to DIRECTOR as FOOTBALL TEAM is to:
   (coach, stadium, defense, quarterback).

4. NEWSPAPER is to PRINT as RADIO is to:
   (electrician, records, electronic, announcer).

5. HAND SIGNAL is to COMMUNICATION as PICKUP TRUCK is to:
   (motor, license plate, transportation, driver).

6. TELEPHONE OPERATOR is to COURTESY as TELEVISION PRODUCER is to:
   (loud voice, neatness, camera, leadership).

7. TEAMWORK is to COOPERATION as AUDIO is to:
   (sound, video, volume, audience).

8. TELEVISION is to ONE WAY COMMUNICATION as TELEPHONE is to:
   (conversation, sound waves, two-way communication, operator).

When finished you might like to try your skill at making some analogies of your own. Can you stump your classmates?

PROGRAM 4

CALLING CAREERS — MEDICAL SERVICES I

OVERVIEW

Many people have some firsthand knowledge of the duties performed by doctors, nurses, attendants, therapists, and other workers who take care of patients in hospitals and in private offices. Less well known, but of great importance to public health, is the work of large numbers of people employed behind the scenes in other health service occupations such as laboratory technicians, medical researchers, and environmental health personnel. Workers in the health field are employed in hospitals, clinics, laboratories, pharmacies, nursing homes, industrial plants, public health agencies, mental health centers, private offices, and patients' homes.

The present shortage of health workers is expected to continue as the nation manifests a growing population, increased health consciousness, and a rising standard of living. In addition to doctors and nurses, some health careers available in the field of health services are: Physical therapist, occupational therapist, inhalation therapist, dental assistant, dental hygienist, dietitian, nursing aide, registered and practical nurses, supply room aide, nursery aide, medical researcher, laboratory technician, food inspector, environmental health specialist, housing inspector, x-ray technician, medical records librarian.

OBJECTIVES

Following both the program and post-viewing activities

1. Pupils will name and describe the job of one type of therapist presented in the program.
2. Pupils will identify some of the personal characteristics and work habits a particular worker shown in the program should have.
3. Pupils will state reasons why health workers who work directly with patients find satisfaction in their jobs.

SYNOPSIS

Health services is so broad a field that the media lab has been programmed to provide enough inputs for two career periods. Next week's program will deal with health workers whose jobs are performed behind the scenes: laboratory technicians, researchers, and health inspectors, for instance. Today's **tele**lesson provides Byron and Cindy a closer look at those health workers who deal directly with patients.

An earnest desire to help others is a personality trait of most medical personnel who furnish health services to patients. Occupational and physical therapists help patients "cure themselves by doing." Part of the therapist's responsibility is motivating the patient to prevent his becoming discouraged. Interviews with male and female nurses reveal their dedication to helping others as they describe both the satisfactions and personal demands of nursing.

The teamwork necessary to provide the patient with good medical care is emphasized. Just as a doctor depends on nurses, a dentist depends on assistants to help him clean and polish teeth, massage gums, take x-rays and develop them, mix compounds for filling cavities, and sterilize instruments. The dietitian who prepares special diets, the orthotist who designs and produces artifical limbs, and the occupational therapist who teaches woodworking are all members of the health team that guides patients on the road to recovery.

PRE-VIEWING ACTIVITIES

1. Ask pupils if they have ever been to a hospital or clinic. What kind of jobs were being done by the health workers they saw? How did each of these workers help a patient?

2. Select a group of pupils to role play the following situation: A child has broken his leg and he and his parents are in the emergency room of a hospital to receive treatment. Have the pupils act out the parts of the various health workers who would be involved with the patient (receptionist, nurse, attendants, x-ray technician, doctor, etc.).

GENERAL POST-VIEWING ACTIVITIES

1. Ask the pupils to describe the jobs of some health workers in the program who provide very specialized medical care to a patient. In what ways do these workers help doctors care for the patent?
2. Ask pupils to help you list on the board some of the things that most health workers shown in the program have in common - things pupils need to think about if they are interested in health careers. Pupils might suggest such personality traits as patience, desire to help others, and dedication, as well as the specialized training and skills needed. Why is it difficult to say any one of these factors is more important than the others?

SUBJECT ORIENTED POST-VIEWING ACTIVITIES

Social Studies:

1. Discuss the variety of health problems and diseases that exist in various geographic regions of the world. How do geographic and climatic factors affect these problems? What steps might be taken to solve these problems? How does this affect the nature of the work done by health workers under these conditions?
2. Have pupils explore some primitive health superstitions and "old wives tales." How did these beliefs begin? Were any of these superstitious theories effective medical treatments? What "old wives tales" are still widely believed today? Discuss the importance of the lack of trained and knowledgeable health workers in generating such tales.

Language Arts and Reading:

1. Have pupils prepare a "You Are There" tape recording for the class in which they dramatize some famous medical discovery such as Fleming's "accidental" discovery of penicillin. Emphasize the workers and the roles they played in the discovery.
2. Have pupils prepare a primer based upon medical service occupations. Some examples:

   A is for ambulance driver
   His driving is cautious. His actions are quick.
   People rely on him when they are sick.

   D is for dietitian
   They take special care of the food that you eat
   To make sure that each part of your diet's
   complete.

Mathematics:

1. Use the information given below to set up a line graph to show the variations in a patient's temperature. Discuss persons who use or keep such a chart.

6:00 A.M.	93.6	12:00 Noon	98.0	6:00 P.M.	98.0
8:00 A.M.	96.5	2:00 P.M.	96.5	8:00 P.M.	98.6
10:00 A.M.	95.0	4:00 P.M.	96.5	10:00 P.M.	98.6

2. Solve the problems. See Post-Viewing Activity Sheet #1 (for classroom distribution).

Science:

1. Have pupils make a chart with three columns: heat, cold, antiseptic. What household appliances and practices use each of these methods to retard growth of bacteria (cooking in oven, freezing, washing with hot water, cleaning with iodine, storing in dark areas)? Parallel the household implements and their uses with medical equipment and the workers using them.
2. Have groups of pupils research and present simple scientific experiments demonstrating the principles of bacteria prevention. Relate the findings to the precautions and care the workers exercise in their jobs in providing for optimum patient care.

NAME_____

MEDICAL SERVICES I

POST-VIEWING ACTIVITY SHEET #1

1. The nurse gave the patient 4 pills today, 1/3 as many as yesterday. How many pills was he given yesterday?

2. A new hospital wing has 200 beds. It requires:
   1 registered nurse for 5 beds.

   1 LPN for every 2 RN's

   2 central supply room aides for every 50 beds

   How many registered nurses will be hired?
   How many practical nurses will be hired?
   How many central supply room aides will be hired?

3. 1/6 of the 96 people in the emergency room today received stitches. How many people were stitched?

   The average number of stitches per patient was 8.
   How many stitches were administered today?

4. An average of 9 babies is born in a hospital each day. How many babies were born there in the month of September?

   If 5/9 of the babies are boys, how many boys were born that month? How many girls?

PROGRAM 5

CALLING CAREERS

MEDICAL SERVICES II*

OVERVIEW

A vital part of the medical services picture is the range of jobs performed by the "behind the scenes" health workers in such fields as x-ray and laboratory technology, environmental health, and medical research. Environmental health workers are responsible for the maintenance of good community health standards. The work of laboratory technologists, medical researchers, and other personnel not associated with direct patient care makes possible the good medical treatment provided by doctors and nurses.

Statistics in 1971 showed that there was a shortage of some one-half million health workers and if this trend continues, the shortage is expected to increase by 1980. The country's growing population, increasing health consciousness, and a rising standard of living are factors which necessitate a response to meet these growing demands.

Some of the career possibilities in the field of medical services are: researcher, environmental health specialist, food inspector, radiation control expert, laboratory worker, sanitarian, housing inspector, x-ray technician, health educator, pharmacist, and medical records librarian.

OBJECTIVES

Following both the program and the post-viewing activities:

1. Pupils will state several contributions "behind the scenes" medical workers make to:
   - -community health
   - -individual health.
2. Pupils will describe some of the personal characteristics and work habits that a medical researcher, a medical machinery operator, or a particular environmental health worker should have.
3. Pupils will explain how certain school subjects and recreational interests might prove useful in a specific health career shown in the telelesson.

SYNOPSIS

There are many health workers who work "behind the scenes." Although these workers may never have direct contact with a patient, the jobs they do are an important component of the medical services picture.

*Note: Listed in Instructional Television Schedule 1971-72 as "Health Services"

In this program, Cindy and Byron find about three clusters of "behind the scenes" health workers. Housing inspectors, restaurant inspectors, food and drug inspectors, pollution specialists, and radiation control experts are just some of the "behind the scenes" workers on the environmental health team. In laboratories throughout the country, medical researchers are constantly striving to find solutions to existing health problems. This program also calls attention to the trained personnel who perform the valuable task of operating medical machinery.

PRE-VIEWING ACTIVITIES

1. Discuss with pupils:
   - the "discovery" of some immunizing drugs
   - the intensive research that usually preceeds such "discoveries"
   - diseases for which cures are presently being researched
   - how researchers contribute to the overall effort of the health team
   - kinds of people doing this work.
2. List as pupils name any diseases against which they have been immunized. Ask pupils to recall the method of administration in each case.
3. Ask pupils how many recall seeing the white inspection label that is attached to furniture, pillows, mattresses, etc. Do pupils know the purpose and content of the label? (The label often reads, "Certification is made by the manufacturer that the materials in this article are described in accordance with the law." The label also usually lists the materials in the product.) Discuss with pupils why the government requires some products to bear inspection labels. Can the pupils think of other products which bear proof of inspection or lists of ingredients? Discuss with pupils the many people who work behind the scenes to keep these products safe for public use.

GENERAL POST-VIEWING ACTIVITIES

1. Ask the pupils to help you list on the board some of the different specialties of environmental health workers seen in the telelesson, (for instance - air pollution, food inspection, housing inspection, radiation control, water purity). Have the class suggest some of the problems that might confront health workers in these fields and the kinds of knowledge they need (relate to the subject areas pupils themselves are studying.)
2. Discuss with pupils the role of the medical records librarian. Incorporate such ideas as: services performed, persons who utilize services, types of records kept, cataloging system, importance of job. Have pupils then compare and contrast the role of the medical records librarian with that of a school or public librarian.

3. Have pupils make a collection or bulletin board display of the many kinds of safety or inspection labels they can find in their homes. Some examples may be found on milk cartons, electrical appliances, stuffed furniture, drug bottles, and food products. Use these graphics to stimulate oral or written summaries pertaining to the many people who work to insure this kind of health and safety.

SUBJECT ORIENTED POST-VIEWING ACTIVITIES

Social Studies:

1. Discuss with pupils:
   - the kinds of pollution with which they are familiar
   - the kinds they have seen or heard about in their communities
   - who is working to try to clean up this pollution
   - why some types of pollution are more dangerous than others.
2. Have pupils identify some kinds of pollution that are not very serious now, but might pose a threat to our health in the future. Some examples might be garbage pollution, pollution in outer space, and thermal pollution that might change the temperature of the oceans. What would the pupils try to do to prevent these things from becoming future pollution problems?
3. Discuss with pupils the types and sources of pollution that exist in our environment today. Some examples would be factories dumping wastes into rivers, tankers leaking oil into the oceans, homeowners burning leaves in the open, people throwing litter from automobiles. Have individuals or small groups of pupils choose a specific kind of pollution and make a poster that a worker concerned with the health problem might make to discourage that kind of pollution. For instance, a pupil might be an environmental health worker and design a poster with dead fish floating on a black sea littered with broken oil drums. The poster might read "Please be careful with your oil. It's good for fuel, but bad for fish."

Language Arts:

1. Select several pupils to act out the following situations:
   - You are a water pollution engineer and you are trying to persuade a businessman to stop production until he can clean up his faulty filtration system because the waste his factory dumps into the river is killing the fish. He argues he will lose too much money if he stops and workers will be laid off.

- You are a pharmacist and a customer comes in and asks for a drug without a prescription. He says he is very sick and must have the drug. What would you say to him? Encourage pupils to create their own situations.

2. Have pupils write a brief composition about the "Perfect Health Machine" of the future. The machine could examine its subjects, diagnose their illnesses, and treat them. How would it operate? What workers would be needed to keep it operating? What are some of the advantages and disadvantages of such a machine? Pupils could draw a diagram of the machine to accompany their compositions.

Mathematics:

1. Have pupils use their rulers to measure each others heights in both millimeters, and inches. Ask which type of measurement is easier to use? Why? Which is more precise? Why would medical workers use the metric system in their calculations? What other metric measurements would medical workers need and how would they use them?
2. Obtain samples or pictures of calibrated equipment used by medical researchers (thermometers, beakers, graduated cylinders, balances). Compare the calibrated scales of measurement used in each piece of equipment with scales of measurement more familiar to the pupil. Discuss the uses of such equipment.

Science:

1. Ask pupils how some of their school subjects might have helped "behind the scenes" health workers with such things as learning how to use scientific equipment, measuring carefully, and keeping accurate records.
2. Have pupils find out about some of the machinery used by medical workers. Pupils could draw a diagram of a medical machine and explain its purpose and function to the class.

PROGRAM 6

CALLING CAREERS

BUSINESS

OVERVIEW

A major emphasis of the business industry is to provide financial services to the public. Careers in business may include dealing directly with the public or in providing supporting clerical and accounting services.

Some of the large industries constituting the business industry are banking, real estate, and insurance. The more traditional services of banking are savings accounts, checking accounts, and loans. Banking also involves many specialized functions: industrial loans; time-credit services; international trade. The real estate industry includes services of buying and selling (of property, houses, industries, and land), property management, land development, and the handling of mortgage transactions. Most insurance companies specialize in either life or property and casualty insurances and write both accident and health policies in their area of specialty. All of these industries attempt to offer their services in terms of individual requirements.

Some of the career possibilities in the business industry are: teller, proof-operator, section clerk, computor operator, secretary, note clerk, transfer clerk, underwriter, claim clerk, receptionist, salesmen, data input people, systems analyst, key-punch operator, and programmer.

PROGRAM OBJECTIVES

1. Pupils will list (two) occupations related to finance, insurance and real estate.
2. Pupils will state the necessity for accuracy in the financial occupations shown in the television program.
3. Pupils will explain the need for people to work as a team in real estate, finance, and insurance.

SYNOPSIS

The complex world of business becomes less complicated for Tracy and Karen as they visit life insurance, banking, and real estate industries. They discover that the insurance industry involves many people working together to provide this needed service to the public.

Tracy and Karen discover that money deposited in a bank for savings is put to work for other purposes such as loans and interest. This takes the teamwork of many employees with the required traits of honesty and accuracy.

Tracy and Karen learn about still another area of business as they observe a couple in the process of looking at and buying a home.

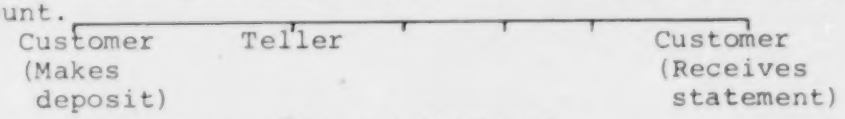
Tracy and Karen conclude the importance in each of these industries people working togetner to nelp other people.

PRE-VIEWING ACTIVITIES

1. Ask the pupils to list their three most important possessions. Introduce the idea of protection of valuables and how this can be done.
   Ask questions such as:
   - Why is property important or valuable?
   - What would one do if it was damaged or lost?
   - Whom would you contact for help?
2. Talk with the pupils about items they would like to have but do not. Discuss ways they might be able to finance such a purchase.
3. Get samples of banking forms to use with the class (individual copies or on over-head projections.) Discuss their possible uses. View the program to find more uses.
4. Use such sayings as "save for a rainy day" and "a penny saved is a penny earned" to start a discussion centering around emergency situations where money is needed. Ask how to provide for such situations. The pupils may know other sayings that are relevant to this topic.

GENERAL POST-VIEWING ACTIVITIES

1. Discuss with pupils:
   - Did you see any worker in the telelesson who might sometime help you and your family? How?
   - How did the workers in business depend on one another to help the public?
   - Why is accuracy important to their jobs? To the pupils and their job in school?
   - Why is honesty important to their jobs? To the pupils and their jobs in school?
2. Select with the pupils one of the areas of business and prepare a flow chart of the workers involved in a transaction and the work each does; e.g. Banking Industry--a checking account.



SUBJECT ORIENTED POST-VIEWING ACTIVITIES

Social Studies:

1. Survey the neighborhood to locate land available for future development. Map these sites. Discuss the kinds of development for which each might be used -- shopping centers, residential areas, communities, etc. Discuss who would be involved in making these final decisions and how they would make them.
2. Explore some of the areas of economics that might relate to units currently being studied by the pupils. Such topics as: international trade, stock market, world bank, currency exchange, foreign aid, interstate commerce, etc. relate to the career area. List additional workers from these areas.

Language Arts:

1. Have pupils prepare stories about the following story ideas:
   - The day all the bank vaults jammed.
   - When all the money in the world melted.
   - The day that there were no more houses for sale or rent.
2. Plan questions to ask a class visitor from one of the business industries. Have pupils conduct the interview.
3. Read brochures and forms from several business industries. Discuss who would use them and how.

Mathematics:

1. Examine various types of charts and graphs distributed by business. Determine who prepares them, why they are prepared, and how they might be used.
2. Role play the buying, financing, and insuring of a treehouse. Include actual costs such as: total cost, down payment, interest, amount insured, etc.

Science:

1. Have pupils consider several types of natural disasters (hurricane, flood, earthquake) and the types of damage they cause. Role play the part of a claims adjuster investigating a claim that resulted from one of the disasters. What would be included in his report?
2. Have pupils pretend they are homebuyers. List the types of building materials they would look for in determining the strength and durability of the house. Carry this study one step farther by considering the effect quality construction would have on insurance.

PROGRAM 7

CALLING CAREERS — MERCHANDISING

OVERVIEW

One of the most essential consumer services is merchandising, the movement and distribution of goods from the producer to the consumer. The movement usually involves a series of sequential steps which include: product planning, buying, storage, pricing, promotion, selling, credit, traffic, and marketing research. The process of distribution is handled primarily by the many people who work in the area of retailing, one of the largest industries in the United States.

Retail merchandising organizations exist in large varieties, but generally fall into two categories: specialty stores and general merchandising stores. Specialty stores carry just one type of merchandise, such as lumber, hardware, furs, or men's apparel. General merchandising stores provide a wide assortment of products.

Some of the career possibilities in the field of merchandising are: salesperson, cashier, stockman, display artist, commercial artist, receiving clerk, marker, advertising specialist, copywriter, credit manager, account clerk, buyer, department manager.

OBJECTIVES

Following both the program and the post-viewing activities:

1. Pupils will name and describe the jobs of at least three workers in the merchandising industry.
2. Pupils will explain how workers in the receiving, checking, and marking sections of the service building cooperate to move items to the store.
3. Pupils will select one of the workers shown in the telelesson and give reasons why he seems to enjoy his job.

SYNOPSIS

Rod and Tracy take a close look at some of the aspects of retailing. As they watch the many workers in a service building perform their jobs, the pupils become aware of the steps involved in the receiving, checking, and marking of goods. The people who design promotional techniques and display materials have the job of making the public aware of the products available. But in order to buy most products, people must rely on the skills of the sales person. Sales personnel must have the ability to understand the needs and viewpoints of their customers and be ready to assist them with their purchases. The pupils discuss how all of these people work together to supply the public with products to meet their needs.

PRE-VIEWING ACTIVITIES

1. Have pupils help you list on the blackboard the names of department stores or shopping centers in the local community. Discuss with pupils the difficulty of having to go to the various factories to buy products if there were no stores. Using pupils' past experiences see how many occupations they can name in this area.
2. Ask pupils if there is a particular department store or shopping center they enjoy visiting. What are some of the factors that make the store attractive to pupils? How are the workers responsible for this positive atmosphere?

GENERAL POST-VIEWING ACTIVITIES

1. Have pupils create an idea for a new product and plan a promotion campaign to sell it to the public. What staff would they need for merchandising this product? What would their product be named? What could it do? Why should people buy it? What kinds of slogans would be used to promote the product? What would be a reasonable charge for the product, etc.?
2. Have pupils help you construct on the board a flow chart depicting the various workers who handle a product on its way from the factory to the customer.
3. Have pupils make a collection or draw facimiles of the various tags and pricing labels found on merchandise they have acquired. What information besides price is given on a department store tag (size, stock number, department number, store number)? Have pupils make up hypothetical tags for articles, as if they were on sale. Discuss the information included and which workers in the "store" would use it.
4. Solve the "Merchandising Jumbles." See Post-Viewing Activity Sheet #1. (The word list may be removed from the bottom of the page if the teacher thinks the pupils will not need any clues.)

SUBJECT ORIENTED POST-VIEWING ACTIVITIES

Social Studies:

1. Have the pupils discuss how pioneers and colonial Americans obtained needed supplies. Compare jobs then with those of today. Discuss some of the products needed in colonial and pioneer times that are not marketed today. How has this affected the types of jobs in this area?
2. Have pupils choose a nation they are familiar with and make a list or collection of unusual products that might be found in a department store they might open in that nation. Plan for the kind of staff needed in such a store.

Language Arts and Reading:

1. Have pupils write or tell about a sales person who has impressed them favorably. What personal qualities of the sales person impressed the pupils?

2. Have pupils act out the following scenes: a toy salesman explaining the benefits of his product to the parents of a young child, a hat salesman persuading a bald man to buy a hat, a sports equipment salesman convincing a grandmother that she needs a bicycle. Have pupils create similar situations and act them out.

Mathematics:

1. Read and solve the word problems. See Post-Viewing Activity Sheet #2.
2. Have pupils collect coupons received in the mail or found in newspapers and magazines. If pupils took advantage of all their coupons, how much would the entire class save? Read the coupons carefully to determine whether the store receives a fee for redeeming the customer's coupon. Can any of the coupons be exchanged for cash? How much? How do such special sales affect the workers in the store?

Science:

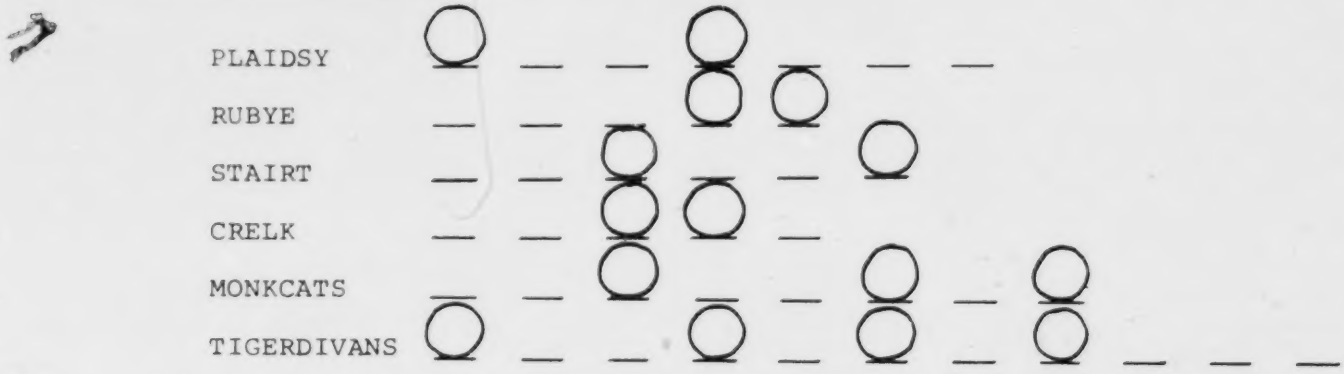
1. Have pupils discuss how a basic scientific principle, such as the wheel, is used in bringing merchandise from the factory to the store to the customer's home. Pupils might make sketches of truck wheels, railroad cars, conveyor belts, bun-warmer wheels, dolly wheels, price marking machines. Then match with each implement the workers who use them. How does application of the principle aid the worker in the job?
2. Have pupils list or make a collection of the various fabrics and materials that might be used by a display artist in displays. What kinds of tests might pupils run to test the suitability of various materials for use in interior displays, window displays, and exterior displays? What guidelines does a decorator have to remember in choosing materials for displays? Discuss how a wrong decision in an advertising display affects the store, its workers, and its customers.

NAME_____

MERCHANDISING

POST-VIEWING ACTIVITY SHEET #1

Unscramble the following sets of letters to form words that have to do with Merchandising.



Use the circled letters above to find the answer to this clue:

MERCHANDISING IS REALLY BIG HERE!

_ _ _ _ _ _ _ _ _ _ _ _ _ _ _

CLUE BOX: THE JUMBLED WORDS CAN BE FOUND IN THIS LIST.

merchandising	marker	product
buyer	cashier	promotion
coupon	selling	advertising
ticket	clothes	manager
clerk	stockman	display

NAME_____

MERCHANDISING

POST-VIEWING ACTIVITY SHEET #2

1. A receiving clerk is expecting a rush shipment of 200 knitted scarves to be completed by Thursday. On Monday of the previous week 32 scarves arrived, on that Wednesday, 54, on Friday, 26, and on Tuesday, 60. How many scarves should the clerk look for on Thursday? _____

2. A children's dress buyer knows that the store can sell 40 children's dresses at $12.50 each. The store can also sell 50 dresses at $9.00 each. Which lot of dresses will bring the most money? _____

3. A department manager can hire up to 280 hours of labor this week. If there are 8 employees in his department, how many hours can each employee work this week? _____

4. A display artist needs 17 yards of felt for each window display on the north side of the building and 6 yards of felt for each window on the east side. If there are 6 north windows, and 4 east windows, how many yards of material does she need altogether? _____

5. A customer gives the cashier a $20.00 bill for purchases costing $5.95, $2.50, $1.98, $3.29, and $1.00. How many "free gifts" does he get if the store gives one "free gift" for every $2.00 spent? _____

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GLOSSARY FOR TEACHER REFERENCE

THE CONSTRUCTION INDUSTRY

ARCHITECT - one whose profession is designing buildings, drawing up plans, and generally supervising construction.

BLUEPRINT - any exact or detailed plan or outline made to scale. A photographic reproduction of architectural plans in white on a blue background.

CEMENT MASON - one who smoothes and finishes surfaces of concrete.

CONTRACTOR - one who agrees to supply certain materials or do certain work for a set fee.

DRAFTSMAN - one who draws plans of buildings or machinery.

FOREMAN - one who is in charge of a group of workers.

SHEET-METAL WORKER - one who works with tin or other sheet metal in ways such as making and/or repairing ducts used for ventilation, weatherproofing, etc.

SURVEYOR - one who measures the lines and angles of land to determine its location, form or boundaries.

THE COMMUNICATIONS INDUSTRY

BROADCAST TECHNICIAN - one who sets up, operates, and maintains all electronic and electrical equipment required in the radio and television industry.

FRAMEMAN - one who connects wires from telephone lines and cables to distributing frames in telephone company central office .

LINEMAN - one who installs and repairs telephone and telegraph lines according to diagrams.

VIDEOTAPE - RECORDING ENGINEER - one who records live television programs on magnetic tape in accord with accepted broadcast standards for sound and image.

MEDICAL SERVICES I

INHALATION THERAPIST	- sets up and operates various types of oxygen equipment.
LICENSED PRACTICAL NURSE	- checks patient progress, administers specified medication, reports reactions to registered nurse or physician. Must pass State Board examination.
OCCUPATIONAL THERAPIST	- plans and organizes medically oriented occupational program to rehabilitate patients.
OPTICIAN	- one who grinds lenses to prescriptions, dispenses spectacles, assists customer in choice of frames, adjusts frames.
ORTHOTIST	- writes specifications for and fits artificial limbs, braces, and appliances for body deformities and disorders.
PHYSICAL THERAPIST	- treats patients with disabilities, disorders, and injuries to relieve pain; develops or restores function using physical means as exercise, massage, heat, water, light, and electricity.
PRACTICAL NURSE	- cares for patient's comfort and personal appearance, cleans room, takes and records temperature, etc., gives medication as directed by registered nurse or physician, may perform housekeeping duties in private home.
REGISTERED NURSE	- refers to persons meeting the educational, legal, and training requirements to practice as professional nurses. Performs acts requiring substantial specialized judgment and skill.

MEDICAL HEALTH SERVICES II

ELECTROCARDIOGRAPH	- a device that detects and records the minute differences in potential caused by heart action; used in the diagnosis of heart disease.
ELECTROENCEPHALOGRAPH	- an instrument used for measuring and recording the electric activity of the brain.
ENVIRONMENTAL HEALTH	- the branch of health dealing with surrounding conditions or influences affecting the existence or development of someone or something.
SANITARIAN	- a specialist in public sanitation and health.
SPIROMETER	- an instrument for determining the capacity of the lungs.

BUSINESS

CONTRACT	- a binding agreement betweeen two or more parties.
POLICY	- a writing whereby a contract of insurance is made; the document containing the contract made by an insurance company with a person whose property or life is insured.
CREDIT ANALYST	- analyzes credit data to estimate degree of risk involved in extending credit or lending money to firms or individuals and prepares reports of findings. Contacts banks, trade and credit associations, salesmen, and others to obtain credit information.
PROOFING MACHINE	- sorts, records, and proofs records of bank transactions, such as checks, deposit slips, and withdrawal slips by using proof machine.

SYSTEMS ANALYST	- (business-electronic data-processing) analyzes business problems, such as development of integrated production, inventory control and cost analysis system to refine its formulation and convert it to programmed form for application to an electronic data-processing system.
UNDERWRITER	- reviews individual applications for insurance to evaluate degree of risk involved and accepts applications following company's underwriting policies.

MERCHANDISING

COMMERCIAL ARTIST	- designs, draws, paints, or sketches backgrounds and other fixtures made of paper, cardboard, etc., for use in displays; also draws and paints illustrations for advertisements, books, etc.
CREDIT MANAGER	- investigates financial standing and reputation of prospective customers applying for credit; supervises collection of bad accounts.
RECEIVING CLERK	- receives, unpacks, and examines goods shipped and verifies completeness of shipments; keeps records of goods received.

CALLING CAREERS CLASSROOM FEEDBACK 1972

Use this feedback form for: The First Five Programs

I. CLASSROOM ELEMENTS (check or complete the following):

1. Number of students viewing the programs Boys_____Girls_____Total_____
2. Average reading score_____or range of reading scores_____
3. The TV lessons were used:
   a. ( ) Independent of the classroom curriculum
   b. ( ) As an integral part of the curriculum
   c. ( ) As a supplement to the curriculum
   d. ( ) Other (specify)_____
4. Specify the motivation and follow-up activities used:
   a. Before the program ( ) those suggested in manual ( ) my own ( ) both ( ) neither
   b. After the program ( ) those suggested in manual ( ) my own ( ) both ( ) neither

II. CURRICULUM INFORMATION (Place in the columns on the right the program numbers on which you are reporting.)

	excellent	good	adequate	fair	poor
A. During the TV programs the student responses showed:					
1. choice of the vocabulary was.....					
2. relevance of the lessons to the students was....					
3. difficulty level of the lessons was.....					
4. teaching techniques used in the program were....					
5. the pace of the lesson's content was.....					
B. Following the television lesson: (Place appropriate program numbers and the letters in proper columns)					
1. the degree to which the program stimulated classroom activities was.....					
2. the degree to which the program stimulated discussion was.....					
3. the degree to which students demonstrated an understanding of the career areas presented was.					
4. the choice of program content for motivating your students was.....					

III. TECHNICAL INFORMATION (Place the program numbers you are reporting on in columns on the right)

A. The television program reception was:					
1. PICTURE					
a. black and white.....					
b. color.....					
2. SOUND					
speaking voices were.....					
B. The visibility of words were.....					
C. The pace or speed of the visual material was.....					

IV. OTHER FACTORS (Place the program numbers you are reporting on in columns on the right)

A. The support offered by the manual for the program..					
1. the pre-viewing activities.....					
2. the post-viewing (or follow-up activities) were..					
3. an overall evaluation of the program's effectiveness with my students would be.....					

PLEASE COMMENT ON THOSE AREAS WITH A FAIR OR POOR RATING

COMPLETE AND RETURN THIS FORM

Teacher_____
School_____
County_____
Grade Level_____

Stamp

Division of Instructional Television
Maryland State Department of Education
Maryland Center for Public Broadcasting
Bonita Avenue
Owings Mills, Maryland 21117

Attention: Utilization, A. Lillstrom

Student comments (identify specific program or general comment) FOLD THIS SECTION IN FIRST

CALLING CAREERS CLASSROOM FEEDBACK 1972

Use this feedback form for: The Second Five Programs

I. CLASSROOM ELEMENTS (check or complete the following):

1. Number of students viewing the programs Boys_____Girls_____Total_____
2. Average reading score_____or range of reading scores_____
3. The TV lessons were used:
   a. ( ) Independent of the classroom curriculum
   b. ( ) As an integral part of the curriculum
   c. ( ) As a supplement to the curriculum
   d. ( ) Other (specify)_____
4. Specify the motivation and follow-up activities used:
   a. Before the program ( ) those suggested in manual ( ) my own ( ) both ( ) neither
   b. After the program ( ) those suggested in manual ( ) my own ( ) both ( ) neither

II. CURRICULUM INFORMATION (Place in the columns on the right the program numbers on which you are reporting.)

	excellent	good	adequate	fair	poor
A. During the TV programs the student responses showed:					
1. choice of the vocabulary was.....					
2. relevance of the lessons to the students was....					
3. difficulty level of the lessons was.....					
4. teaching techniques used in the program were....					
5. the pace of the lesson's content was.....					
B. Following the television lesson: (Place appropriate program numbers and the letters in proper columns)					
1. the degree to which the program stimulated classroom activities was.....					
2. the degree to which the program stimulated discussion was.....					
3. the degree to which students demonstrated an understanding of the career areas presented was.					
4. the choice of program content for motivating your students was.....					

III. TECHNICAL INFORMATION (Place the program numbers you are reporting on in columns on the right)

A. The television program reception was:					
1. PICTURE					
a. black and white.....					
b. color.....					
2. SOUND					
speaking voices were.....					
B. The visibility of words were.....					
C. The pace or speed of the visual material was.....					

IV. OTHER FACTORS (Place the program numbers you are reporting on in columns on the right)

A. The support offered by the manual for the program..					
1. the pre-viewing activities.....					
2. the post-viewing (or follow-up activities) were.					
3. an overall evaluation of the program's effectiveness with my students would be.....					

PLEASE COMMENT ON THOSE AREAS WITH A FAIR OR POOR RATING

COMPLETE AND RETURN THIS FORM

Teacher _____
School _____
County _____
Grade Level _____

Stamp

Division of Instructional Television
Maryland State Department of Education
Maryland Center for Public Broadcasting
Bonita Avenue
Owings Mills, Maryland 21117

Attention: Utilization, A. Lillstrom

Student comments (identify specific program or general comment) FOLD THIS SECTION IN FIRST

PILOT ISSUE

CALLING CAREERS

PART II

(PROGRAMS 8 -- 15)

This publication is a temporary teacher's manual. The permanent manual will be prepared in accordance with teachers' recommendations about its content and pupil activities.

Teachers, please keep a record in *this manual* of your suggestions about the series, your results from using the suggested activities, and the activities you and your pupils create. The Division of Instructional Television seeks your evaluation of this series and its manual.

Become involved in instructional television planning by submitting your recommendations! Evaluation forms are included in the manual for your convenience in responding to us.

Division of Instructional Television
Maryland State Department of Education
Maryland Center for Public Broadcasting
Owings Mills, Maryland 21117

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CALLING CAREERS

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CALLING CAREERS

LEISURE INDUSTRIES I

OVERVIEW

The field of leisure industries today is one of the most rapidly expanding areas of employment in the nation. By 1980, the service occupations and related leisure industries are expected to employ 50 per cent more workers than they employed in 1970. Extensive variety of opportunities in leisure occupations ranges through the broad areas of recreation, entertainment, and tourism.

With more time and money to spend, the consumer seeks additional ways to utilize these resources meaningfully. Recreational services make possible active participation in activities such as camping, hobbies, crafts, art, music, dramatics, aquatics, games, and sports. The consumer also seeks ways to entertain himself and his family by utilizing the services of entertainment workers whose jobs vary from that of performer to statistician to ticket-taker.

Tourist facilities, from information booths to gigantic hotels, have been burgeoning to meet the consumer's demand for things to do and places to stay and eat while on his vacation. Since the average American family now spends one quarter of its food dollar eating out, restaurants and food services have been growing in number as rapidly as have other leisure industries.

Leisure related occupations are unique in that they provide workers with a wide range of work settings and an opportunity to turn their working time into leisure time. Leisure industries offer more opportunities for part-time and seasonal employment than do any other field.

Some careers in leisure industries are: tour guide, travel agent, fishing guide, park ranger, guard, ticket-taker, concession operator, food service worker, room clerk, maid, bellman, banquet manager, cook, steward, waiter.

OBJECTIVES

1. Pupils will describe the distinctive characteristics of work settings of three workers shown in the telelesson.
2. Pupils will state how one interest of theirs might develop into a career in a leisure related occupation.
3. Pupils will explain how they know a particular worker in the telelesson finds satisfaction in his work.
4. Pupils will describe at least one way a particular worker in the telelesson is providing services needed by many persons.

SYNOPSIS

Leisure Industries encompasses such a number of occupations that two telelessons have been devoted to this area. This week's telelesson gives Bob and Donna a close look at some of the many programs, amusement parks, and resorts. The pupils also go behind the scenes of hotels, motels, and restaurants where they find out about the many capable workers who are needed to ensure that the customer is satisfied with the facilities, the service, and the product.

In an interview with a fishing guide, Bob and Donna learn that it is possible to combine one's work and leisure pursuits as the guide remarks that he enjoys fishing even in his "spare" time. Another person who is sometimes able to combine leisure and working activities is the travel agent whose job frequently requires him to travel to distant places.

PRE-VIEWING ACTIVITIES

1. Have pupils discuss the difference between work and leisure. What activities of their own would pupils classify as work? Have pupils make lists of their leisure activities and lists of their work activities.
2. Have pupils make circle graphs of the major ways in which they spend their leisure time each week. Discuss and compare the graphs.
3. Ask pupils to write on a piece of paper the name of a specific United States attraction they have visited or would like to visit (Disneyland; Grand Canyon; Fort McHenry; New York City; Annapolis, Md; Washington, D. C; Ocean City, Md.) Have pupils list information such as means of transportation, duration of trip, lodging, food, fuel. Discuss and list on the board the many leisure employees the pupils will encounter on their real or hypothetical trips.

GENERAL POST-VIEWING ACTIVITIES:

1. Have pupils pretend they are travel agents and plan hypothetical vacation trips for themselves and their families. What sort of questions would pupils ask their customers? What arrangements would they have to make in advance to insure a pleasant vacation trip for their clients?
2. Have pupils prepare a bulletin board or make a group collage of their own drawings or collected pictures and photographs of activities and ways they would like to spend their leisure time each week. Discuss and compare the graphs.
3. See Post-Viewing Activity Sheet I (for class distribution or use as overhead).
4. Locate leisure time industries in own community not introduced in the telelesson. Discuss people they know working in the industry.

SUBJECT ORIENTED POST-VIEWING ACTIVITIES

Social Studies:

1. Have pupils discuss some of the ways people in foreign countries might spend their leisure time. In what unusual recreations and hobbies might they be involved?
2. Have pupils investigate the hobbies and leisure activities of prominent people. Pupils could make a collection of magazine and newspaper articles about the leisure activities of famous people (Roosevelt Greer - needlework, Bob Hope - golf, Tom Smothers - automobile racing.
3. Map areas where specialized leisure industries and occupations might be found (state parks, summer or winter vacation sites, cultural centers).

Language Arts and Reading:

1. Have pupils pretend they are banquet managers and prepare the "ideal menu" for a banquet in their own honor or in honor of their mothers. List all the favorite foods that would be served and discuss how they would be served. What workers would be necessary for the banquet?
2. Select for pupils several colorful pictures of people at leisure that might be used to motivate brief poems or limericks about leisure time activities. Have pupils find or draw their own pictures and write accompanying poems.
3. Prepare publicity brochures for favorite vacation spots showing workers waiting to serve customers.

Mathematics:

1. Have pupils make up word problems illustrating situations in which employees in leisure related occupations are called upon to use their knowledge of mathematics. Example would include kitchen employees measuring portions and ordering new supplies, room clerks preparing bills, ticket-takers making change, fishing guides measuring fish for compliance with legal specifications about the size of the catch, travel agents computing mileage estimates between cities.
2. Have pupils obtain a simple recipe and rewrite it for a large number of people. For example, rewrite a recipe for four so that it is suitable for one hundred people.

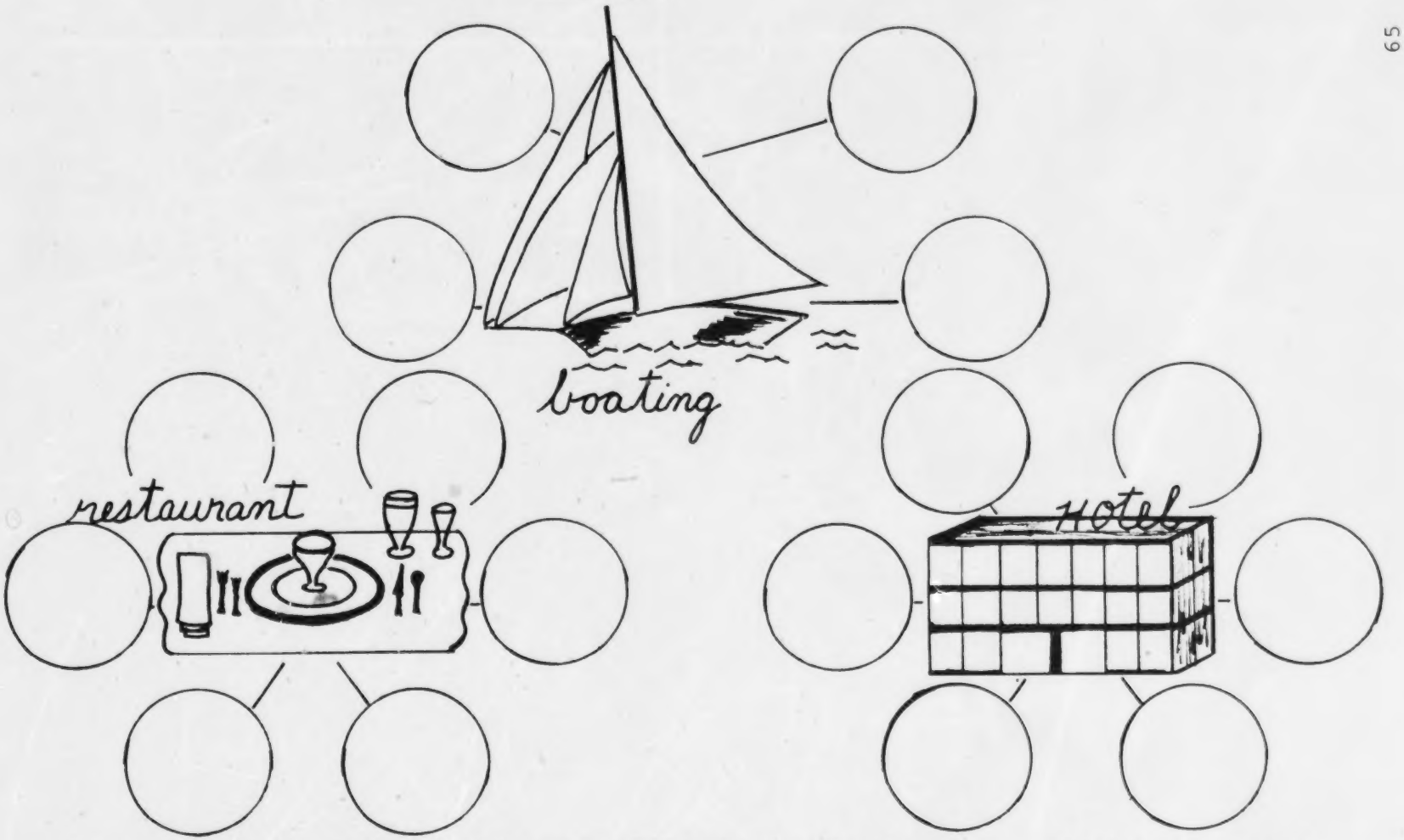
Science:

1. Perhaps some pupils can recall and describe some familiar amusement park rides and list these on the board. Discuss how the principle of inertia (a body at rest tends to remain at rest; a body in motion tends to continue in motion) is utilized in the operation of these rides. For instance, a roller coaster receives only an initial thrust to give it momentum and it continues to move.

2. Have pupils make a mural or chart of the precautions restaurant workers take to ensure sanitary conditions. Include antiseptic cleaning solutions, cold storage, and cooking of food, clean uniforms, continuous rotation of stock to ensure freshness of food.

3. Identify geological factors that created tourist attractions and discuss the specialized leisure occupations that occur there.

LEISURE I POST-VIEWING ACTIVITY
SHEET 1



Can you place the names of the workers listed below in the correct circles around the restaurant, boating, and hotel industries? Do you know what each worker does? Can you think of other workers in these businesses?

CHEF	HOUSEKEEPER	FISHING GUIDE	HOUSEMAN
MAID	COOK	WAITRESS	STEWARD
BELLMAN	TELEPHONE OPERATOR	ROOM CLERK	SAILING INSTRUCTOR
BOAT SALESMAN	BUSBOY	MARINA OPERATOR	MAITRE D'

GLOSSARY FOR TEACHERS

LEISURE INDUSTRIES I

CONCESSION OPERATOR	-	induces customers to purchase food or participate in games at concession booths in parks or other amusement places
MAITRE D'HOTEL	-	coordinates activities of workers engaged in preparing food and beverages in hotel dining room or restaurant.

CALLING CAREERS
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* FICTION

CALLING CAREERS — LEISURE INDUSTRIES II

OVERVIEW

An overview of Leisure Industries is found in the manual materials for Program 8 - Leisure Industries I.

OBJECTIVES

Following both the program and the post-viewing activities:

1. Pupils will describe the distinctive characteristics of the work settings of three workers shown in the telelesson.
2. Pupils will state how one interest of theirs might develop into a career in a leisure related occupation.
3. Pupils will explain how they know a particular worker in the telelesson finds satisfaction in his work.
4. Pupils will describe at least one way a particular worker in the telelesson is providing services needed by many persons.

SYNOPSIS

Bob and Donna continue to learn that there are almost as many jobs in leisure industries as there are ways to spend leisure time. At a baseball stadium the pupils observe many different employees ranging from grounds crew maintenance men, to statisticians, to the players themselves.

Library workers who provide and coordinate community services such as film programs and informative lectures as a community service are emphasized in this telelesson. At Sandy Point State Park a ranger explains the jobs of some of the park employees. State and national monuments and recreational facilities provide a wide variety of jobs for leisure workers.

A large number of leisure industries personnel work in such places as drive-in eating facilities and automobile service stations that help the consumer make the most of his leisure time.

PRE-VIEWING ACTIVITIES

1. Have pupils help you list on the board some of the signs in their communities that signify establishments catering to leisure and recreation needs. Some examples include: restaurants, service stations, drive-in eating facilities, record stores, camera shops, etc. What workers are involved in each of these businesses?

2. Have pupils read excerpts from Ernest Thayer's poem "Casey at the Bat." Ask pupils what workers they would observe at a baseball stadium today: in the stands; in the concession booths; in the press booths?
3. Have pupils develop a "Leisure Time Curriculum." Introduce this idea by discussing the prediction of a 20 hour work week by the year 2000, and the possible responsibility of schools to prepare pupils for wise use of this increased leisure time. If the pupils were curriculum planners, what would they include in their new Course of Study for use of leisure time?

GENERAL POST-VIEWING ACTIVITIES

1. Post-Viewing Activity Sheet #1, Maze (Use for class distribution).
2. Have pupils make reproductions of signs outside community leisure facilities, such as restaurants, bowling lanes, drive-in eating places, movie theaters, etc. Pupils could also design signs for their own original leisure establishments and display all signs randomly on a wall to create a "Leisure Street" class mural. An alphabetical directory could be designed, listing the names and jobs of the "Leisure Street" employees.
3. Have pupils arrange to play a baseball game with another class or arrange a play-off tournament within the grade. Groups of pupils could take charge of publicity, scheduling, making and collecting tickets, ushering, etc. Other groups not involved in the actual playing could record scores, compute averages, act as sports announcers, and write post game publicity announcements.

SUBJECT ORIENTED POST-VIEWING ACTIVITIES

Social Studies:

1. Have pupils discuss the kinds of leisure occupations that exist on a local or State level because of distinctive regional geographic and climatic features. What leisure occupations are encouraged by abundant waterways? Ocean frontage? Mountains? Long cold winters? Lakes? Densely populated large cities?
2. Have pupils find out what kinds of State park facilities exist in their State. Groups of pupils could prepare coded State maps locating the State parks. They could use green trees to signify State forests, blue circles to signify water facilities, brown tents to signify camping facilities, etc. What workers help operate these various facilities? Which workers are seasonal employees?
3. View films of land regions different from that of the local community. Discuss the kinds of leisure industries that might exist there and the workers they would need.

Language Arts:

1. Ask individuals to role play the following situations:
   .....You are working at a soda fountain. Your customer has asked for several flavors of ice cream. You are out of these flavors and your customer is becoming annoyed.
   .....You are operating an amusement park ride which for safety purposes has a limit of two children per seat. A mother insists that her three children ride together.
   .....You are a recreation leader at a park. A young boy wants to play baseball with the others but seems afraid to join the game.

2. Have pupils create several resource learning centers in the library or classroom. Develop each center around a specific leisure activity appealing to intermediate pupils. The centers could include books, filmstrips, film loops, tapes, pupil-prepared materials, and related materials brought from pupils' homes. Encourage pupils to share their centers with other classes and grades within the school.
3. Have groups of pupils choose a local historical monument or shrine and present some information about it to the class. Pupils might tape record an interview with someone who works at the monument, make a diorama, or prepare a brief skit.
4. Chart with the pupils examples of well known real or fictitious literary characters who have unusual leisure occupations.

Mathematics:

1. See Word-Problem Sheet, Post-Viewing Activity Sheet #2 (for class distribution).
2. Have pupils construct a bar graph based on the kinds of books the class has borrowed from the library during the week. Use the horizontal grid to show types of books (history, science, mystery, biography, sports, etc.) and the vertical grid to show the number of each type borrowed.

Science:

1. Have pupils discuss the following ecological difficulties that might confront a park ranger.

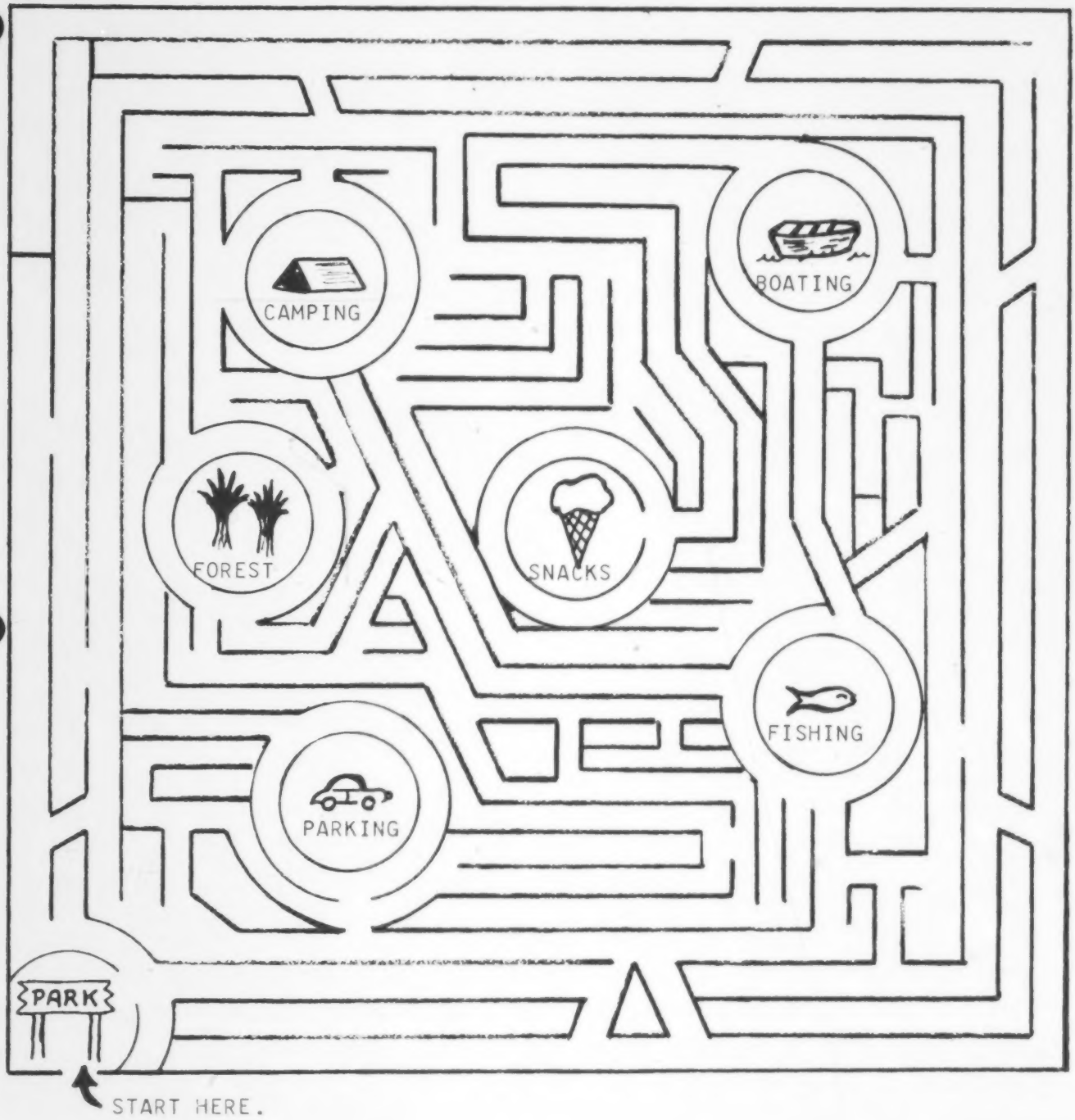
   -Contamination of water facilities. Pupils could illustrate such causes as debris disposal, fuel spillage from pleasure boats, overuse of swimming areas.
   -Careless use of motor vehicles. Pupils could make dioramas showing the effects on natural settings and the presence of wild-life.
   -Encourage pupils to discuss other ecological problems possibly faced by a park ranger and to create their own visual representations.

2. Present the following problem to the pupils: the natural balance of plants and animals in a State park has been disturbed. Discuss the possible kinds and causes of imbalance. What could be done to restore the balance of nature without closing the entire park? What kinds of workers would be needed?

3. Have pupils match scientific principles with the leisure industries workers who would use them. (Such topics as combustion, motion, tides, infection, and contamination seem to relate to several occupations).

LEISURE INDUSTRIES II

POST-VIEWING ACTIVITY SHEET #1



Begin at the entrance to the park and see if you can find your way from parking lot to the snack booth without crossing any lines. As you arrive at the different sections of the park, name at least three workers who would be needed there.

When you have finished, make your own "path puzzler" of an amusement park. See if you can "puzzle" your friends.

LEISURE INDUSTRIES II

POST-VIEWING ACTIVITY SHEET #2

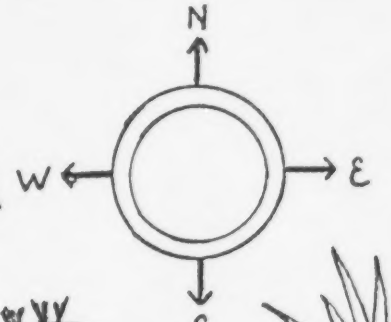
1. A family of four stopped at a Drive-In Restaurant and ordered four hamburgers at thirty-five cents each, two hot dogs at thirty cents each, and four milk shakes at thirty-five cents each. How much change should the counterman return if the father pays with a five dollar bill?

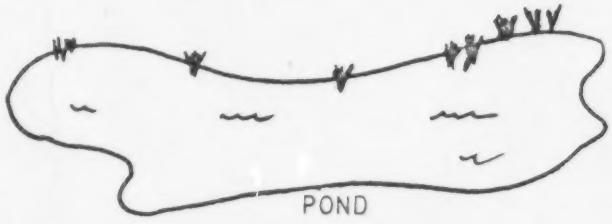
2. A baseball diamond measures 90 feet on each side. In one inning, Team A scored four homeruns; two men were tagged out at second; and one man was out at third. How many feet did all seven men run before they reached home or someone tagged them out?

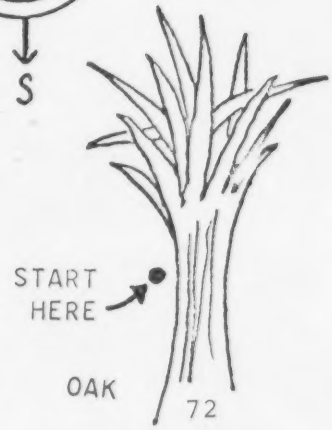
3. A service station attendant has to figure out the bill for the following: six gallons of gas at thirty-eight cents a gallon, two quarts of oil at eighty-five cents a quart. He must also add a four cent tax for each quart of oil. What is the customer's bill?

4. A tour guide supervisor expects 354 visitors from one tour group. If one tour guide can accompany one group of 20 people, how many tour guides are needed for the group of 354 people?

5. See if you can help Tom find his brother without doing a lot of walking. Tom's brother is hiding somewhere in the State park. He left Tom the following set of directions. Start from the big oak, walk 600 feet west, 200 feet north, 100 feet east, 300 feet south, 200 feet east, 300 feet north, 300 feet east, and 200 feet south. Let one inch equal 100 feet, and use the map below to help you find out where Tom's brother is hiding.







GLOSSARY

LEISURE INDUSTRIES II

FRANCHISE	-	permission granted by a manufacturer to a distributor or retailer to sell his products.
STATISTICIAN (as relates to professional sports)	-	surveys, collects, organizes, interprets, summarizes, and analyzes sports statistics.

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PROGRAM 10

CALLING CAREERS

AGRI-BUSINESS

OVERVIEW

Today agri-business includes not only farming and farm management, but also many businesses and services that the farmer used to raise his livestock and grow his products. Agri-business also includes industries that buy and process the products of the farm as well as some industries that sell raw and processed products to the consumer. The production, processing, and sales of such varied products as lumber, livestock, dairy goods, fruits, vegetables, wool, cotton, and farm equipment and machinery are all part of the agri-business industry.

Employment in agri-business is expected to show definite increases in the areas of processing, wholesale, and retail sales. The number of people working in areas related to the actual growing of food products is expected to decline because of technological advancement and increased specialization of jobs.

Some of the careers available in the field of agri-business are farmer, farm machine operator, farm machine mechanic, seed and fertilizer salesman, farm equipment salesman, cooperative extension service worker, inspector, horse exerciser, groom, lumberjack, egg hatching producer, breeder serviceman, egg grader, quality control worker, food packager, food processor, foreman, truck driver, wholesale distributor, broker, retail food department manager, meat cutter, produce worker, stock clerk, cashier, clerk, florist.

OBJECTIVES

1. Pupils will describe the distinctive work settings of three workers shown in the telelesson.
2. Pupils will illustrate the interdependence of workers in the agri-business industry.

SYNOPSIS

Agri-business involves a lot more than satisfying man's basic need for food. Many of the raw materials used in clothing and shelter are products of the agri-business industry. The choice of work settings in agri-business is as varied as the products and services of the industry. In the poultry business one can work outdoors feeding chickens or indoors grading eggs or processing and packaging meat for the market. In farming, one might operate a tractor or work in a maintenance shop, servicing farm equipment. One might also work in a farm cooperative providing farmers with information about grain mixes or concerning financial problems. Some jobs done by workers on horse farms are feeding, exercising, grooming, training, and/or caring for horses.

One of the fastest growing areas of employment in agri-business is the marketing and sale of agricultural products. Truck drivers, stock managers, supermarket cashiers, butchers, floral arrangers, and secretaries are just a few of the workers involved in this area. Bob and Donna find out that agri-business is so diverse an industry that it can offer a job for just about every interest and ability.

PRE-VIEWING ACTIVITIES

1. Have the pupils explain how the following terms relate to the agri-business industry: TRACTOR, PLOW, MILKING MACHINE, INCUBATOR, CASH REGISTER, AIRPLANE, SILO, REFRIGERATED TRUCK, SAWMILL, VASE, SHEARS, SCALE, STOPWATCH, SLICER. After the telelesson, help pupils to clarify any terms about which they were uncertain.
2. Have pupils discuss the concept of "agri-business" as it involves the growing, processing, sales of all living plants and animals. Develop the idea that agri-business provides food, clothing, and shelter by eliciting from pupils a listing of such diverse agri-business products as grains, fruits, vegetables, meats, wool, flax, lumber, linseed oil, turpentine, flowers, etc.
3. Have pupils choose a meat or produce product and trace it back to its origin. Include steps in sales, marketing, transportation, packaging, processing, and growing. What workers are involved in these activities?

GENERAL POST-VIEWING ACTIVITIES

1. Solve the rebus. See Post-Viewing Activity Sheet #1. ANSWER: There are many agri-business workers. Three are cashiers, butchers, and florists. See if you can make a rebus about agri-business words that will puzzle your classmates.
2. Have pupils discuss the division of labor in agri-business and why this results in more efficient production, marketing, and sales. What would happen if we all had to grow our own food?
3. Have groups of pupils grow pumpkin seeds, household plants, onion sprouts, potato sprouts, etc. in the classroom. Have pupils discuss whether it is easier for an individual to grow one particular product or many products. After plants have grown, have pupils develop a bartering system for the products of each group.

4. Have pupils divide themselves into groups of supermarket employees (produce workers, stock shelf clerks, store display workers, etc.). Have each group find out about the jobs and equipment used by their workers. Information could be presented to the class in a skit.

SUBJECT ORIENTED POST-VIEWING ACTIVITIES

Social Studies:

1. Have pupils help you list the various geographic and natural resources that are necessary for the cultivation of specific agri-business products, such as grains, citrus fruits, trees, vegetables, livestock, etc. How have agri-business workers managed to overcome natural handicaps (through irrigation, fertilizer, crop-dusting, development of new seeds, etc.)? What new jobs were created in connection with each of these developments?
2. Have pupils discuss reasons why some countries are able to grow more than enough food for their own needs while other countries never seem to have enough. Emphasize natural resources, climatic features, technology, economic conditions, and organization of labor resources, etc.
3. Have pupils make an illustrated timeline tracing the historical development of some agricultural implement such as the plow or a harvesting tool. As pupils chart each step in the development of the implement, have them note what workers were involved in the production, use, and maintenance of the implement.
4. Have groups of pupils make color or picture coded maps of their State showing the geographical predominance of various agricultural industries by-products, such as grains, dairy, broiler chickens, trees, tobacco, fruits, vegetables, etc.

Language Arts and Reading:

1. Have pupils rewrite the song "Old MacDonald Had a Farm" by the title "Old MacDonald Had a Mechanized Farm." MacDonald might have on his farm such equipment as an electric milking machine, a tractor, a harvester, an automatic feeding machine, an incubator, etc. Groups of pupils could write their lyrics on charts and illustrate them with appropriate pictures like medieval manuscripts were illustrated.
2. Have pupils pretend they are agri-business workers or products and see if the rest of the class can guess during a 60 second time limit, who or what they are. Pupils could mime or voice the reactions of: worker traying 12,000 eggs per hour, chicken being placed in incubator, supermarket cashier at the end of a busy day, tree trunk about to go through a sawmill, etc.

3. Have pupils suggest names for new agri-business products that might be developed through cross breeding and other methods in the future. For instance, a banana might be crossed with a watermelon to make a "waternana", or a new flavor ice cream "banana-mallow" might be developed. Pupils could write brief commercials to persuade buyers to try the new product.

Mathematics:

1. Have pairs of pupils measure and record one another's height in units of inches. The height of horses is computed in "hands," the breadth of an outstretched palm. Have each pupil compute and record how many hands tall his partner is. After pupils have completed their measuring, tell them that a standard hand unit is four inches. How tall is each pupil in terms of standard hand units? Discuss problems that arose before a standard hand unit was developed.
2. Reading a graph. See Post-Viewing Activity Sheet #2.

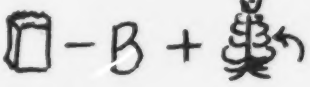
Science:

1. Write the following words on the chalkboard: WEATHER, PLANT BREEDING, INSECT CONTROL, ANIMAL DISEASE STUDY. Have pupils discuss why agri-business workers in these fields are important to the science of agriculture.
2. Have groups of pupils construct simple incubators and hatch their own chicks from fertilized eggs. Materials needed are cardboard box, electric light bulb unit, wood shavings, and thermometer.
3. Obtain a soil testing kit and have pupils test samples of soil from varying topographical areas in the community (gardens, roadsides, creek-beds, etc.). Why would agri-business workers be interested in the results of soil tests?

AGRI-BUSINESS

POST-VIEWING ACTIVITY SHEET #1

See if you can solve this rebus. When you finish, make up a few one word rebuses about agri-business that might fool your friends.

T + R + E 

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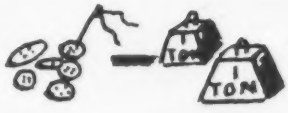
+ + S,  + S,

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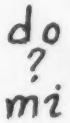
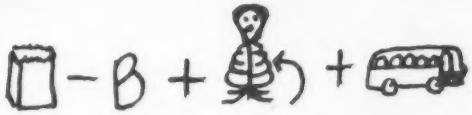
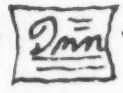
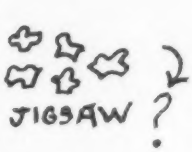
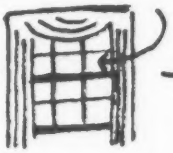
C F U M + - C a 

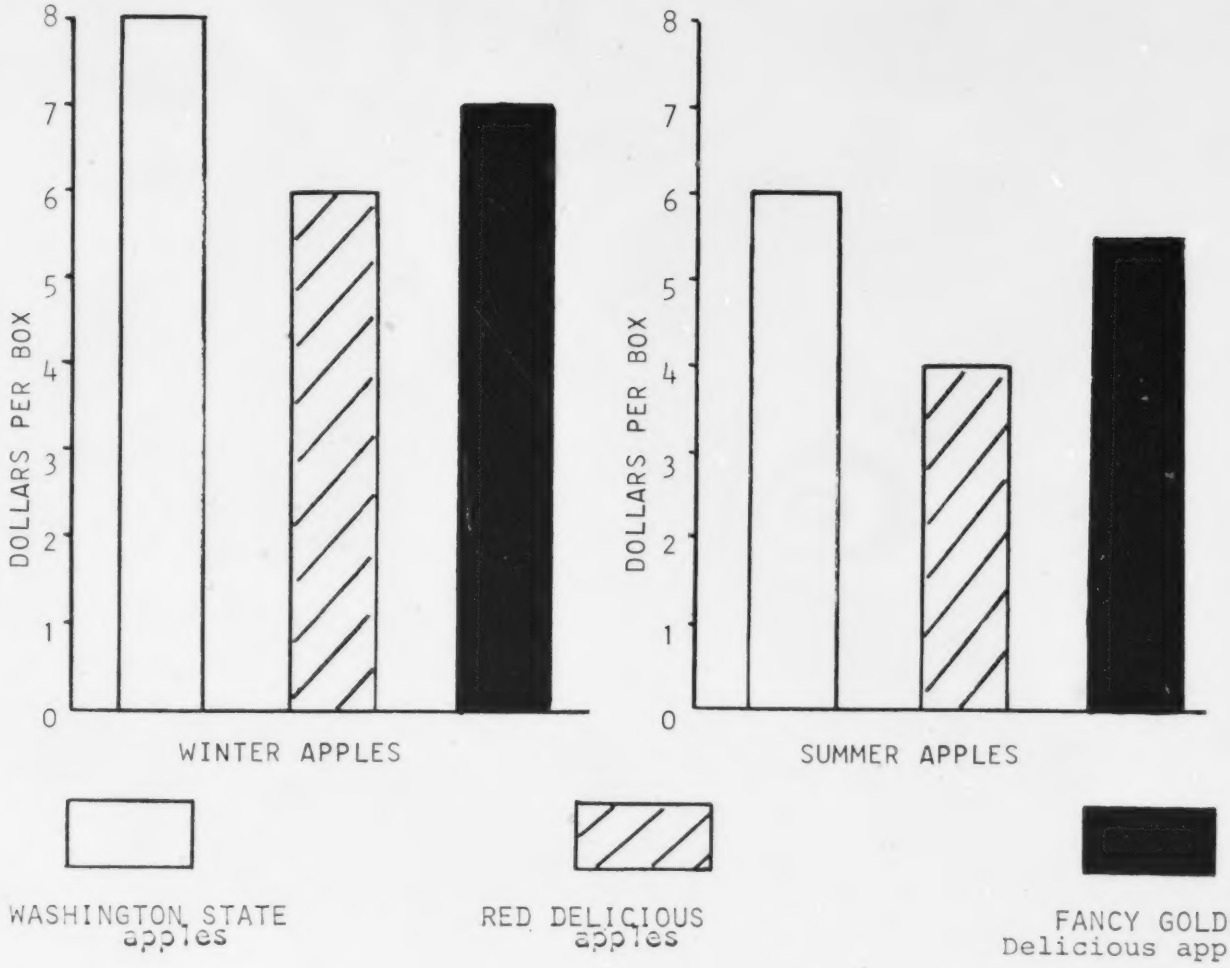
AB + 

 + S - M + DS T +

 UR C +  - G + M + .

AGRI-BUSINESS

POST-VIEWING ACTIVITY SHEET #2



The information in the two graphs above might be found in the produce charts in a daily newspaper. What does each bar represent? What was the price of each type of apple during winter and during summer? What effect does seasonal change have on the price of apples? What agri-business workers would be interested in the information shown in the graphs?

Make your own graphs to compare the following information:

SUMMER GRAPEFRUIT -	Camp Seedless	$2.00 box
	River Seedless	$4.00 box
	Red Stream	$3.00 box
WINTER GRAPEFRUIT -	Camp Seedless	$3.00 box
	River Seedless	$5.50 box
	Red Stream	$4.00 box

AGRI-BUSINESS

GLOSSARY

GRADER - classifies newly hatched chicks according to size and quality.

NEWCASTLE DISEASE - virus-induced disease of birds and domestic fowl marked by loss of egg production in old birds and by paralysis in chicks.

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*Fiction

CALLING CAREERS CLASSROOM FEEDBACK 1972

Use this feedback form for: Programs 6-10

I. CLASSROOM ELEMENTS (Check or complete the following):

1. Number of students viewing the programs Boys_____Girls_____Total_____
2. Average reading score_____or range of reading scores_____
3. The TV lessons were used:
   a. ( ) Independent of the classroom curriculum
   b. ( ) As an integral part of the curriculum
   c. ( ) As a supplement to the curriculum
   d. ( ) Other (specify)_____
4. Specify the motivation and follow-up activities used:
   a. Before the program ( ) those suggested in manual ( ) my own ( ) both ( ) neither
   b. After the program ( ) those suggested in manual ( ) my own ( ) both ( ) neither

II. CURRICULUM INFORMATION (Place in the columns on the right the program numbers on which you are reporting.)

	excellent	good	adequate	fair	poor
A. The student responses to the TV programs showed:					
1. Choice of the vocabulary was.....					
2. Relevance of the lessons to the students was....					
3. Difficulty level of the lessons was.....					
4. Teaching techniques used in the program were....					
5. The pace of the lesson's content was.....					
B. Following the television lesson: (Place appropriate program numbers and the letters in proper columns)					
1. The degree to which the program stimulated classroom activities was.....					
2. The degree to which the program stimulated discussion was.....					
3. The degree to which students demonstrated an understanding of the career areas presented was.					
4. The choice of program content for motivating your students was.....					

III. TECHNICAL INFORMATION (Place the program numbers you are reporting on in columns on the right)

A. The television program reception was:					
1. PICTURE					
a. Black and white.....					
b. Color.....					
2. SOUND					
Speaking voices were.....					
B. The visibility of words was.....					
C. The pace or speed of the visual material was.....					

IV. OTHER FACTORS (Place the program numbers you are reporting on in columns on the right)

The support offered by the manual for the program..					
1. The pre-viewing activities.....					
2. The post-viewing activities were.....					
3. The overall evaluation of the program's effectiveness with my students would be.....					

PLEASE COMMENT ON THOSE AREAS WITH A FAIR OR POOR RATING

MP
1107

PLEASE COMPLETE AND RETURN THIS FORM

Teacher _____

County _____

School _____

Grade Level _____

Stamp

Division of Instructional Television
Maryland State Department of Education
Maryland Center for Public Broadcasting
Bonita Avenue
Owings Mills, Maryland 21117

Attention: Utilization, A. Lillstrom

Student comments (identify specific program or general comment)

FOLD THIS SECTION IN FIRST

CALLING CAREERS

TRANSPORTATION

OVERVIEW

The transportation industry can be divided into the two areas of passengers and freight. Most passenger service is provided by bus, plane, and rail, respectively. Local and national freight is moved by truck and rail while almost all international freight is transported by ship.

A rapidly growing demand for transportation manpower is expected to continue as the result of technological advances and the increased demands of modern industrialized society. Motor vehicle occupations are expected to offer the largest transportation employment opportunities in the future, especially for drivers and mechanics. Anticipated demand in the air and rail transport industries will be greater for workers who service and operate transportation vehicles than for workers who provide passenger services. Demand for manpower in the waterfront shipping industry is expected to decrease as more port operations become automated. Overall, however, the transportation industry will remain one of the largest employment fields in the country.

Some of the career possibilities in the transportation industry are truck driver, mechanic, traffic manager, dispatcher, safety specialist, claims specialist, grounds serviceman, air traffic controller, steward, stewardess, ticket agent, customer relations worker, conductor, engineer, brakeman, locomotive fireman, track worker, cargo winchman, stevedore, longshoreman, pier superintendent, freight agent, clerk.

OBJECTIVES

1. Pupils will describe the job of one worker in each of the following transportation industries: trucking, waterfront, air, rail.
2. Pupils will choose a transportation worker shown in the telelesson and explain why he needs the ability to follow directions clearly.
3. Pupils will describe one way their communities would utilize the services of a worker shown in the telelesson.

SYNOPSIS

In this telelesson Cindy and Byron view a waterfront shipping facility where they observe workers involved in preparing, loading, shipping, and unloading cargo. On the waterfront, workers are shown operating an array of equipment from fork-lifts to machines that lower containers into ships. In an interview with a truck-driver, he explains the advantages and disadvantages of working in the trucking industry.

PRE-VIEWING ACTIVITIES

1. Write on the board the following words: SHIPS, PLANES, TRUCKS, RAILROADS, BUSES, TAXICABS. Assign several pupils to each word and have them list for their word the kinds of things transported and the reasons people would choose that particular form of transportation. In discussing pupils' findings, emphasize that each form of transportation has its own advantages.
2. Have pupils categorize under the headings air, land, and sea all the different transportation workers they can describe; in discussing each worker, underline those whose jobs are not readily familiar to the pupils. After viewing the telelesson, see if pupils are able to clarify these terms with your help. Add to the lists names of new workers pupils learned about in the telelesson.
3. Have pupils help you list on the board song titles or first lines of songs that contain the names of transportation devices ("I've Been Working on the Railroad," "Up, Up, and Away in My Beautiful Balloon," "Freight Train," "Yellow Submarine," etc.). After about 15-20 titles are listed, have pupils try to label each transportation device according to whether it travels by air, land, or sea. Discuss the roles workers would have in using each device.

GENERAL POST-VIEWING ACTIVITIES

1. Have pupils discuss the idea that the needs of man's environment have led to many improvements and new inventions in transportation. Discuss what needs resulted in such recent developments as the jet engine, space travel, the Bay Bridge, the 747 jet, and the metroliner trains, etc. What new jobs have been created by these developments?
2. Have pupils make tape recordings of various transportation sounds such as those made by roller skates, bicycles, automobile motors, etc. See if pupils can guess what transportation sound was recorded as they hear one another's tapes. Match the sounds to the workers needed for each mode of transportation.
3. Have pupils make a dispatching schedule for traffic flow in the school. The schedule could include staggered lunch and recess times as well as entry and dismissal times for different classes. Some pupils could make dispatching flow diagrams using color coded lines to show which classes move in specific directions at appointed times. Discuss some attitudes that students would need for the plan to be effective (following directions, punctuality, etc.)

SOCIAL STUDIES

1. See Post-Viewing Activity Sheet #1 - Map Reading. Use for class distribution. In discussing this activity (after the pupils have solved the problems) emphasize the feeling they can develop for the things a truck driver needs to know and the decisions he makes.

2. Have pupils discuss the idea that certain transportation jobs remain while others are phased out as the predominant means of transportation in a country changes. Write the following words on strips of paper: AIRPLANE, RAILROAD, STAGECOACH, TRUCKS. Have children arrange these words in order of historical development and affix the strips to the chalkboard as column headings. Ask pupils to list on the chalkboard types of workers who were involved in supporting and operating the stagecoach (driver, blacksmith, stable-keeper, harness maker, inn-keeper, ticket seller, etc.). Have children list those workers involved in the railroad industry. Compare both columns and cross out those workers whose function does not remain relatively similar. Continue this process through the development of the airplane. Discuss which workers remain necessary for all four transportation areas. Will these workers be necessary in future transportation developments?

3. Many stories describe situations where adventures occur on various modes of transportation. Read some of these and discuss the workers portrayed and the reality of the presentation. Pupils may then try to write some stories of their own about present or future travel.

Language Arts and Reading:

1. Have pupils discuss briefly future developments in transportation that are being researched and developed now (high-speed monorails, hydrofoils, moving sidewalks, cars that ride on cushions of air, etc.). Have pupils choose a particular form of transportation now being researched and write a brief proposal explaining specific reasons why the government should support research and development of the invention. If the students work in groups to develop these proposals, suggest that the work be divided according to specific areas of consideration such as public need, availability of materials, jobs to be created, facilities, time, money, etc. Pupils could read their proposals aloud for class evaluation.
2. Have pupils make simple sketches of traffic safety signs observed by truck drivers, railroad engineers, and other transportation workers. Explain that nations are developing "international signs" that use easily recognized symbols instead of words. For instance, the silhouette of a child could signify a school crossing. Local automobile clubs might provide information on international signs being developed. Have pupils design their own international symbols to replace standard traffic signs. To evaluate the effectiveness of each sign, have pupils see if their signs are easily understood by the rest of the class.

Mathematics:

1. Have pupils discuss why transportation workers would often have to estimate distances traveled. Have pupils work in pairs to estimate how many miles or fractions of miles they have traveled in the past week. Have groups of six add their totals for weekly estimated miles traveled. Then have pupils compute the estimated distance traveled by the entire class in one week.
2. Have pupils obtain copies of railroad or bus schedules and compute total traveling times for an itinerary that would take them between several cities. Have pupils allow time for local bus transport to the railroad or intercity bus terminal. What railroad and bus workers would often perform an activity similar to this?

Science:

1. Write on the board the following words: ROLLER SKATES, BICYCLE, MOTORCYCLE, SAILBOAT, MOTORBOAT, GLIDER, JET. Ask pupils if they can add others and group the words according to the source of power for each. Elicit that the words can be categorized as propelled by persons, propelled by natural forces, or propelled by motor. How many air, land, and sea transportation devices can pupils list for each power source?
2. Have a pupil volunteer to bring to class a bicycle that uses gear shifts. Have pupils examine the bicycle chain apparatus and explain how shifting gears regulates the speed of the bicycle. Can the pupils arrive at any general principles about the bicycle chain and the speed of the bicycle? Why would an automotive mechanic need to understand the principle of a gear shift?
3. Relate some of the simple machines to means of transportation (lever, fulcrum, screen, inclined plane, pulley). Discuss how they are used in the operation of complex equipment and how workers would need to know about them.

TRANSPORTATION

POST-VIEWING ACTIVITY SHEET #1

1. You are a truck driver and must go from Baltimore to San Francisco while stopping at the following cities: Boston, Buffalo, Chicago, Cleveland, Denver, New York, Philadelphia, St. Louis. In what order would you visit these cities to cover the shortest distance possible?
2. What cities west of Chicago will you visit?
3. What cities east of Cleveland will you visit?
4. Between what two cities will you make your shortest trip?
5. What city will you reach when you have covered about half of your total driving distance?
6. If it takes you four days to drive from Baltimore to St. Louis, how many days will it probably take you to drive from St. Louis to San Francisco?
7. Remembering the information you discovered in Problem 6, how many days will it take you to drive from Baltimore to San Francisco?
8. If a team of two drivers can cover twice as much distance in a day as one driver, how long would it take a team of two drivers to cover the distance from Baltimore to San Francisco?
9. Do you know the names of the states in which each of the cities on the map is located?

TRANSPORTATION

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PROGRAM 13

CALLING CAREERS — PERSONAL SERVICES

OVERVIEW

By 1980, personal services and other service occupations are expected to employ 50 percent more workers than were employed in 1970. Many personal services add to people's comfort and enjoyment and protect life and property. The largest number of personal services workers are employed as private household help and building maintenance workers. Cosmetology and barbering, home repair and maintenance, appliance repair, and building security are some other personal service occupations employing large numbers of people.

The personal service industries offer job opportunities to persons having widely varied levels of skill and differing degrees of training and education. Many personal service workers acquire their skills informally while others invest years in study and must pass an examination by a State board.

Some careers in the field of personal services are cosmetologist, barber, manicurist, cleaner, tailor, plumber, painter, electrician, carpenter, carpet layer, landscaper, appliance repairman, housemaid, pet handler, photographer, custodian, maintenance engineer, security guard.

OBJECTIVES

Following both the program and the post-viewing activities:

1. Pupils will describe how three workers in the telelesson are providing services needed by many persons.
2. Pupils will state reasons why a worker shown in the telelesson would choose a particular personal services job.
3. Pupils will illustrate how a particular school subject would be useful to a personal services worker shown in the telelesson.
4. Pupils will identify some of the personal characteristics a worker shown in the telelesson should have.

SYNOPSIS

Most communities have a number of small and large businesses that cater to the personal needs of consumers. Cindy and Donna take a look at the shopping facilities of a typical community and investigate such personal services as photography, pet grooming, income tax consulting, tailoring, and cosmetology.

Personal services extend to the maintenance and repair of your personal property to the upkeep and beautification of your person. The pupils learn more about the work of electricians, painters, and television repairmen by watching them do their jobs. Cindy and Donna learn that personal service workers have frequent and extensive contact with their customers. An even temperament and pleasant disposition are characteristics of many successful personal service workers who find job satisfaction in their work.

PRE-VIEWING ACTIVITIES

1. Ask pupils what services they perform around their homes and neighborhoods. After listing these on the board, explain that such services as baby sitting, mowing lawns, and delivering newspapers are personal services because they are performed according to an agreement between two persons. Have pupils discuss the responsibilities of both the worker and the customer in a personal services job such as baby sitting.
2. Have pupils make a list of the ten things they would miss most if they were stranded on a desert island. Write some of the pupils' suggestions on the chalkboard and have the pupils attempt to classify the things they would miss as foods, appliances, books, clothes, PERSONAL SERVICES, etc. Use the classification list on the chalkboard to elicit from pupils a definition of PERSONAL SERVICES.

GENERAL POST-VIEWING ACTIVITIES

1. See Post-Viewing Activity Sheet #1. Use for overhead transparency. Discuss with pupils the difference between figurative and literal language by using the following example: What does an electrician mean by "throwing a switch?" Have pupils draw cartoons to illustrate literal interpretations of personal services workers' tools and phrases that might have both figurative and literal meanings.
2. Have pupils take a class survey to determine what kinds of personal services they would like offered in their communities and give reasons for their statements. Would pupils make the same decisions ten years from now? Have pupils give reasons why their desire for personal services would remain the same or change as time passes.
3. Have pupils select any personal services worker and itemize all the steps involved in a typical job that a worker might perform. Have pupils write each step on a separate file card. Pupils could shuffle cards and challenge one another to see how long it takes to put the steps in order.

SUBJECT ORIENTED POST-VIEWING ACTIVITIES

Social Studies:

1. Have pupils discuss personal service workers whose jobs have practically disappeared only to reappear recently. What causes these changes in consumer demand for specific personal services workers? Examples might include wig makers, blacksmiths, sandal makers. Some pupils could research these and other workers in depth.

2. Have groups of pupils formulate plans for "setting themselves up" in a personal service business for which there is a demand in their communities. In establishing their businesses, group members should consider: location of shop; physical layout of shop; equipment; consumable supplies; job descriptions of employees; record keeping for payroll, inventory,

taxes, bills, etc; promotional advertising. Pupils could demonstrate the success of their newly formed businesses by simulating their personal services for the class.

Language Arts:

1. Have pupils discuss why the following language arts skills are important to personal services workers: courtesy, communicating with others, persuading others that your service is the best, putting your customers at ease, etc. Pairs of pupils could role play situations that illustrate the previous qualities: a painter trying to help a woman decide on the choice of colors for a new room, a beautician or barber helping a customer decide on a new hairstyle, a baby-sitter trying to persuade an unruly group of children to go to bed, a plumber trying to calm a housewife whose basement is flooded, a pupil persuading a woman to allow him to cut her grass.
2. Have pupils examine the "Personals" section of their local newspaper to see what kinds of advertisements personal services workers write. Have pupils select a personal service they could provide and write an advertisement promoting themselves and their services. Pupils might mimeograph a list of these personal services offered and a definition of their chosen worker. Pupils could distribute the list to possible customers in the neighborhood.

Mathematics:

1. Have pupils help you compute the amount of paint required to paint the ceiling or a wall of the classroom if one gallon of paint covers 350 square feet of area. Have pupils compute the amount of paint required to paint the walls and ceilings of their bedrooms if one gallon of paint covers 350 square feet of area. What other personal service occupations would require knowledge of area? How?
2. Have pupils choose a personal services worker who has to measure things in his work. Have pupils catalogue the kinds of things measured, measuring tools, and units of measure used by that worker. Pupils could make up and solve mathematical problems that might be encountered by their workers.

Science:

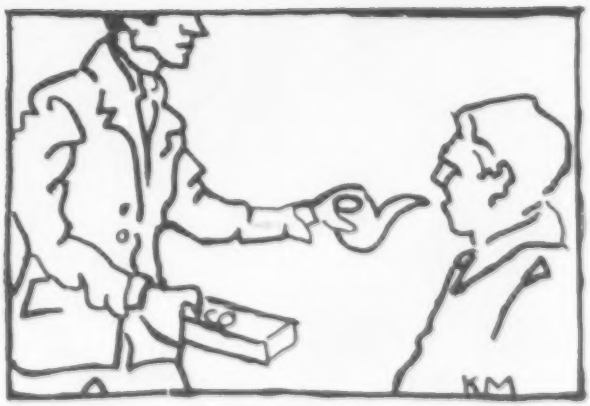
1. Make pupils aware of the knowledge of science needed by many personal service workers by charting safety precautions used by these workers and the reasons for them. Workers could include a cosmetologist mixing chemical hair dye, a painter working in an air tight room, an appliance man repairing a gas stove, a plumber adjusting a hot water heater, etc.

2. Ask pupils what personal services workers would work with tools or materials made of the following: wood, plastic, stone, metal. A carpenter and landscaper would work with metal tools. An electrician would work with metal wires. A cosmetologist would work with metal hairclips, etc. Emphasize how each worker involved would work with these materials. Have pupils list other materials which several personal services employees might use.

PERSONAL SERVICES

POST-VIEWING ACTIVITY SHEET #1

IS THIS FROSTING HAIR?



IS THIS FITTING A PIPE?

GLOSSARY FOR TEACHER REFERENCE

COSMETOLOGIST - one who provides beauty services for customers; suggests coiffure and styles hair; shampoos hair; applies bleach, dye, or tint to color hair.

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CALLING CAREERS

MANUFACTURING

OVERVIEW

Over one-fourth of the nation's labor force works directly in the manufacturing industry. Most manufacturing workers are semiskilled employees who operate machines, run equipment, assemble parts, load parts on conveyors, and inspect products for quality.

The products of the manufacturing industry can be grouped as durable goods which last more than three years, and nondurable goods which last less than three years. Three-fifths of manufacturing workers produce durable goods such as machinery, electrical equipment, transportation equipment, primary metals, and fabricated metals. The remaining two-fifths of manufacturing workers are involved in production of nondurable goods such as processed foods, apparel, printing and publishing, chemicals, and textiles.

Employment in manufacturing is expected to grow moderately during the next decade. Shortages of skilled workers, such as machinists and lathe operators, are expected to continue. Some careers in the manufacturing industry are job setters, toolmakers, plumbers, electricians, welders, millwrights, draftsmen, machine operators, tool and diemakers, furnacemen, heaters, typesetters, printers, assemblers, fork-lift truck drivers, inspectors, foremen.

OBJECTIVES

Following both the program and the post-viewing activities:

1. Pupils will describe the jobs of at least three workers shown in the telelesson.
2. Pupils will identify some of the work habits a particular worker shown in the telelesson should have.
3. Pupils will explain how workers in the manufacturing industry cooperate to perform specific tasks.

SYNOPSIS

Bob and Donna follow the stages in the production of an automobile from the casting of metals to the production and assembly of components to delivery of the finished product at the shipping terminal. Production begins with the casting of metal for the engine block and crank case. Assemblers and machine operators put together the various parts of the engine and run tests to detect production imperfections which are corrected immediately.

At the body plant, the sheet metal components are hand finished and the upholstered components are produced. From there, all components are sent to the assembly plant where electrical accessories are installed, steering and braking systems are put into

place, orders for custom items are filled, and the entire automobile is rigorously inspected and tested for quality. A conveyor belt transports the finished automobile to the shipping building where it awaits delivery to the dealer.

At each stage of the production process, workers operate complex machinery that checks the quality and operation of every component in the automobile. Automobile production workers depend on one another to locate and correct possible production defects on the production line before the finished automobile rolls off the assembly line and is marked "OK" for delivery.

PRE-VIEWING ACTIVITIES

1. Ask pupils to help you list on the board the parts of a ball-point pen. Discuss:
   - Workers and machines involved in each step of production
   - The importance of workers in checking for malfunctioning machines and defects in the components of the pen
2. Compare the steps and people involved in the production of a primitive man's clay bowl with those involved in the contemporary production of dishes.
3. Demonstrate the importance of smooth flow in an assembly line by playing the following game with pupils. Number all pupils consecutively and arrange them so that they can pass a chalkboard eraser to one another with little difficulty. Have pupils pass the eraser in consecutive number order from the first to the last. Next, tell pupils that you are going to call out numbers of pupils who can no longer accept or pass the numbers of a few pupils spaced out all through the chain to the end. Call out several more numbers and repeat the process. Ask pupils to explain why it becomes more difficult to pass the eraser. How would this idea relate to an assembly line in manufacturing?

GENERAL POST-VIEWING ACTIVITIES

1. Have pupils draw a production flow diagram listing the steps and workers involved in the manufacturing of an automobile or another product of their choice, such as a bicyle.
2. Have pupils discuss the kinds of short and long range planning done by themselves and/or their families. What kinds of long and short range planning is done by manufacturing workers? What things must be considered in planning for the future in manufacturing?
3. Have pupils list ten items other than books, magazines, and newspapers, that carry printed information. What kind of information is conveyed by the printing? What reasons can pupils give for the printing industry being the fastest growing segment of the manufacturing cluster?

SUBJECT ORIENTED POST-VIEWING ACTIVITIES

Social Studies:

1. Discuss with pupils what manufacturing industries are located in and around their communities. Ask pupils what considerations new manufacturing industries would make before locating in their communities. Discuss such things as: natural resources, energy sources, human resources, location of the community, etc.
2. Discuss with pupils the origin of the word "MANUFACTURE" (to make by hand). Show how this concept has changed by encouraging pupils to trace a product, such as a piece of furniture, from its early "manufacture" by a colonial cabinet maker to today's mass production process. Emphasize the idea of expansion through number of workers, machinery, and consumer demand. Individuals or groups may wish to research and trace manufacturing developments related to a product of their choosing.
3. Have pupils survey newspaper advertisements for jobs offered to manufacturing workers. Are there more jobs for management or production workers? Why?

Language Arts:

1. Have pupils discuss the need for market research in manufacturing to assess customer satisfaction and demand for new products. Have pupils select a manufacturing product and determine: group to be surveyed, questions on the survey, decisions to be made after the survey results are complete.
2. Ask pupils to suggest some of the more comical things that might happen when manufacturing machines make mistakes. Examples might be: a pencil making machine that puts erasers on both ends of a pencil, a doughnut making machine that fills all the holes with jelly. Have pupils recall stories they may have read or seen about machines that malfunction with humorous results. Pupils could write brief creative stories about something funny that might happen when a machine of their choice makes a mistake.

Mathematics:

1. Discuss with pupils the need for efficiency in manufacturing industries. What techniques were used to make automobile production more efficient? Have pupils chart many of the activities they perform each morning before arriving at school. List the amount of time required for each activity charted. How could pupils make their own morning routines more efficient by reducing the total number of minutes required to prepare themselves for school?
2. Have pupils list and discuss some of the ways manufacturing workers use computers in automobile production. Pupils should observe that computers may: check very precise measurements in components, check for production defects, signal foremen that production defects are occurring; locate the source of the defects, analyze information to report production statistics, etc. What new jobs are created by the use of computers?

Science:

1. Have pupils list food products familiar to them that result from mixing: two solids, two liquids, a solid and a liquid, etc. Tell pupils that food processing is one of the largest manufacturing industries. Why would food processing workers have to know about mixing liquids, liquids and solids, etc.?
2. Have pupils compare the ingredients involved in making a food product from scratch with those listed on the package for a pre-processed product. Pupils could compare homemade cakes with pancake mixes, fresh cooked vegetables with packaged vegetables, etc. What workers would decide which additives should be included in processed foods? Why are additives necessary?

GLOSSARY FOR TEACHER REFERENCE

MANUFACTURING

FURNACEMAN	- controls continuous process furnace and related equipment to decompose salt cake, forming hydrogen chloride Starts salt conveyors or shovels salt cake into furnace.
JOB SETTER	- sets up variety of machine tools, such as gear hobbers, lathes, milling machines, boring machines, and grinders for other workers.
LATHE OPERATOR	- tends one or more previously set up lathes, such as turret lathes, bar machines, to perform one or a series of repetitive operations, such as turning, boring, or threading of metal work pieces.
MACHINIST	- sets up and operates machine tools and fits and assembles parts to make or repair metal parts, mechanisms, tools, or machines.
MILLWRIGHT	- installs machinery or equipment according to layout plans, blueprints, and other drawings in an industrial establishment using hoists, lift trucks, handtools, and power tools.
TOOL AND DIEMAKER	- analyzes variety of specifications, lays out metal stock, sets up and operates machine tools, and fits and assembles parts to make and repair metalworking dies, cutting tools, fixtures, etc.

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CALLING CAREERS

PEOPLE CHANGE

OVERVIEW

Change is a neutral process that is judged in a positive or a negative manner depending on the perspective of the individual involved. An important part of every individual's emotional, social, and psychological development is learning how to cope with changing society. The changes which occur are difficult for one person to control, yet they do affect individual behaviors. These behaviors are modified as a result of the interaction between personal value systems and the indivual's competency in employing the decision making process. The five general stages in decision making are motivation, exploration of tentative and alternative choices,decision as to a course of action, acceptance of responsibility for consequence, evaluation of choice. The idea of change becomes easier to accept and look forward to when one realizes the personal advantages that may result.

OBJECTIVES

Following both the program and the post-viewing activities:

1. Pupils will state several ways people change.

2. Pupils will state reasons why three workers shown in the telelesson changed jobs.

SYNOPSIS

People go through changes all their lives. Some of these changes, such as physical growth, are difficult to control. There are, however, many changes people can control more easily. Baltimore Bullets player Wes Unseld explains how practice and perseverance helped develop his ability as a player. Pupils like Cindy and Byron control changes in their lives every day when they expand their interests by investigating and accepting opportunities for new experiences.

An important part of changing yourself is the ability to make decisions. One important decision made by adults is whether or not to change jobs. Most workers change jobs several times during their lives. The reasons for these changes are as different as the people who make them. Byron and Cindy realize that it is vitally important to know the answer to the question "What kind of person are you?" before making any change.

PRE-VIEWING ACTIVITIES

1. Discuss with pupils the idea of change as it relates to people. Have pupils suggest ways in which they change and list these on the chalkboard in two untitled columns. In the first column, place a list of changes in their lives which pupils can control alone. In the second column,list changes that pupils cannot control alone. Ask pupils if they can tell why you grouped the suggestions as you did. Continue listing changes but at this point have the pupils decide in which category to place the item.

2. Ask pupils if they remember something they were once afraid of or very worried about that doesn't seem to matter now. List several suggestions on the chalkboard. Ask pupils what led to changes in their feelings about this subject. Why do things that were once very important to pupils often seem unimportant as time passes?
3. Ask pupils to write down the biggest good change that occurred in their lives (moving, a new friend, being allowed to stay up later, acquiring a new pet or possession, etc.). What differences in pupils' lives resulted from this good change? Write some of these on the chalkboard. What kinds of equally good changes do pupils look forward to in the future? What are the sources for such changes?

GENERAL POST-VIEWING ACTIVITIES

1. Have each pupil make an inventory of the way his interests have changed and will change. See Post-Viewing Activity Sheet #1, for class distribution. Emphasize ways pupils can change themselves.
2. Have each pupil try to identify career areas of potential interest to himself. See Post-Viewing Activity Sheet #2, for class distribution. Discuss other interests and abilities that might help pupils to identify areas of career interest.
3. Match the workers with the proper career cluster. See Post-Viewing Activity Sheet #3 for class distribution. Discuss the kinds of workers pupils select as the most attractive to them.
4. Have pupils select workers from any career cluster such as Construction or Medical Services and discuss the following:

    - Were more or fewer of these workers employed 100 years ago?
    - How have the jobs of these workers changed during the past 100 years? How has this affected the workers?
    - How do you think jobs in this cluster will change during the next 100 years? How will this affect the workers?
    - Has the basic service provided by these workers changed during the past 100 years? Will it change during the next 100 years? What effects do these changes have on the people performing the job?

5. Have groups of pupils select career clusters that interest them and plan and perform their own Calling Careers program for their clusters. Some pupils could perform a Calling Careers program for jobs of the future.
6. Discuss with pupils difficult decisions they have had to make. Elicit from the pupils the steps in their decision making process that would include: identifying the problem, exploring choices, deciding upon a course of action, accepting responsibility for consequences, evaluating the choice. Pairs

of pupils could role play the following situations and identify the steps in the decision making process as they occur: two friends discussing whether one should tell his parents that he doesn't want to take piano lessons anymore; your friends want you to play softball, but you promised your mother you would mow the lawn; you are in a department store and find two sweaters you like very much, but you have enough money to buy only one. Conclude the discussion by assessing the importance of each of the steps in the total process and state what is lost when one is omitted.

7. Discuss with pupils reasons why workers shown in the telelesson changed jobs. Have pupils interview their relatives or neighbors to find out how many times they have changed jobs and, where possible, the reasons for the changes. Discuss some of the more common reasons for these job changes. Also, discuss some of the personal changes that resulted.

SUBJECT ORIENTED POST-VIEWING ACTIVITIES

The concept of this particular telelesson focuses on how and why people change. For this reason, manual suggestions have been designed to expand upon this idea rather than to emphasize a particular career cluster through subject oriented activities.

NAME _____

PEOPLE CHANGE
POST-VIEWING ACTIVITY SHEET #1

Answer the following questions to the best of your ability. Try to guess about yourself three years from now.

	3 Years Ago	Now	3 Years From Now
1. My weight:			
2. My height:			
3. My favorite television program:			
4. My favorite clothes:			
5. My favorite possession:			
6. My favorite food:			
7. One of my best friends:			
8. The thing I like(d) to do best:			
9. The thing I like(d) to do least:			
10. The easiest thing for me to do:			
11. The most difficult thing for me to do:			
12. What I like(d) best about myself:			
13. What I want(ed) most:			

Which changes above can you control?

Which changes are very difficult for you to control?

In the future, do you think: More things about yourself will change? Fewer things about yourself will change? The same number of things about yourself will change? Why?

NAME _____

PEOPLE CHANGE

POST-VIEWING ACTIVITY SHEET # 2

Write your answers to the following questions:

1. Three years ago, what kinds of work did you think you wanted to do when you finished school?

_____

2. What kinds of work do you now think you would like to do when finish school?

_____

3. What books, stories, or articles have you read about the kind of work you would like to do?

_____

4. Have you seen on television in Calling Careers anyone who does the kind of work you would like to do? Name these workers.

_____

5. What things do you enjoy doing most?

_____

6. What jobs might be related to the things you enjoy doing most?

_____

7. What school subjects do you like best?

_____

8. What jobs might be related to the school subjects you like best?

_____

NAME_____

PEOPLE CHANGE

POST VIEWING ACTIVITY SHEET #3

TRY TO MATCH EACH OF THE JOBS IN THE MIDDLE OF THE PAGE WITH THE CAREER CLUSTERS AROUND THE EDGE OF THE PAGE AND WRITE THEM IN THE PROPER CIRCLES. SOME JOBS CAN GO INTO MORE THAN ONE CLUSTER. THINK OF TWO MORE JOBS FOR EACH CLUSTER AND WRITE THEM IN THE CIRCLES. PUT A STAR NEXT TO THE JOBS YOU LIKE BEST.

Communications

Construction

CAMERAMAN
FIREMAN
APPLIANCE REPAIRMAN
TRUCK DRIVER
DISPLAY ARTIST
SECRETARY
COSMETOLOGIST
POLLUTION INSPECTOR
BOOM OPERATOR
MACHINIST
FOOD DEPT. MANAGER
PHYSICAL THERAPIST
LONGSHOREMAN
TRAVEL AGENT
REAL ESTATE AGENT
SALES CLERK
PARK RANGER
ASSEMBLY LINE WORKER
HORSE TRAINER
SOCIAL WORKER

Medical Services

Manufacturing

Business

Personal Services

Merchandising

Public and Social Services

Leisure

Agri-Business

Transportation

Do you know what each worker on the page does?